a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

AUGUST, 1959

MAN-MADE FIBERS

24 pages of exclusive features on the new labeling law, weaving filaments, dyeing, and stretch yarns — plus . . .

FIBER PROPERTIES CHART
page 111

FIBER TRADEMARK CHART
page 118

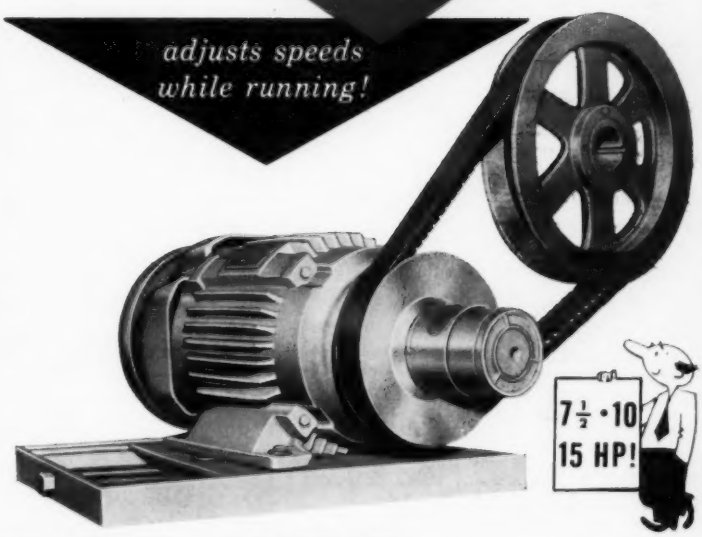
High-grade yarns from low-grade cotton
page 119

How to double seamer production
page 143

Will we kill the textile boom?
page 81

New Low Cost
TEXTILE
PULLEY

adjusts speeds while running!



REEVES *vari-spin drive*

● Speed settings in 2:1 range are accurately made in seconds—*while the frame is operating.*

A low cost unit, the compact 975-T features REEVES' exclusive "close grooving" for positive lubrication . . . free sliding shifting action.

Contact your nearest REEVES or RELIANCE representative, or write for complete details in Bulletin T37-G586-1.

for a wider speed range, 3 to 1, fixed center drive, write also for details on REEVES No. 16-10 Vari-Spin Drive . . . through 15 hp. Ask for Bulletin T37-G561-1.

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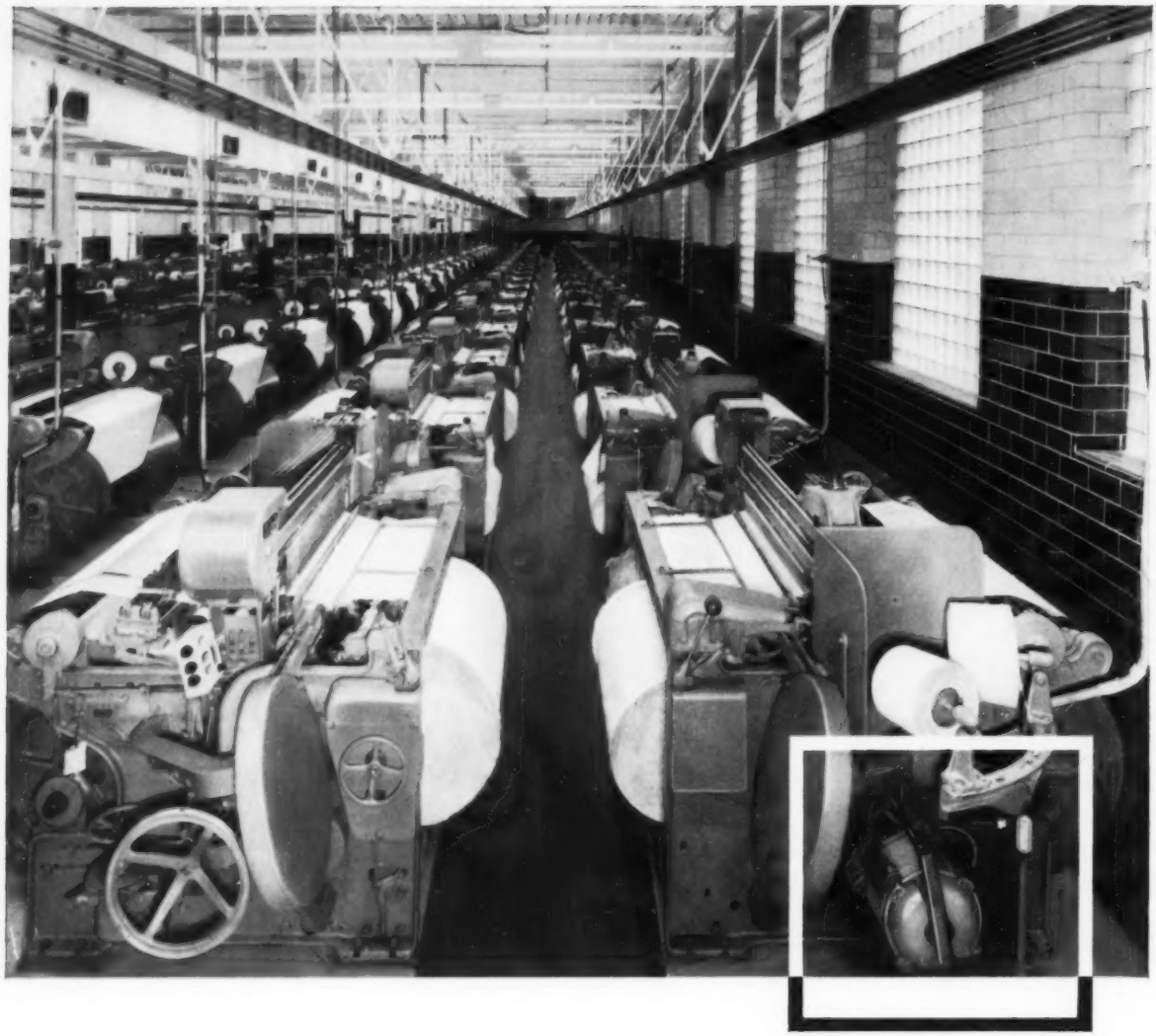

DIEHL* power transmitters drive new-type shuttleless loom

The spectacularly new, compact, low silhouette shuttleless looms, recently introduced by Draper Corporation, Hopedale, Massachusetts, are shown on the line at Pepperell Lindale. Among the advantages claimed for the new design looms are . . . increased production speeds . . . economy . . . easier operation by weaver and fixer . . . and a considerable reduction in noise level.

To drive this new loom with maximum efficiency and utmost reliability, DRAPER selected the DIEHL Power Transmitter . . . an inverted-type high inertia motor combined with a fast, positive, clutch-break mechanism. The motor provides "stored energy" for smooth, fast starts and positive picking . . . maximum inertia with minimum size. The clutch-break assembly is removable as a unit for maintenance, without disconnecting the motor from the loom frame, and features a clutch-actuating bearing mounting which assures full self-alignment of bearing for maximum life.

DIEHL Textile Motors and Power Transmitters can increase production and efficiency—at lower operating costs and less downtime—in your mill. Specify them for your textile machinery.

*Trademark of DIEHL MANUFACTURING COMPANY

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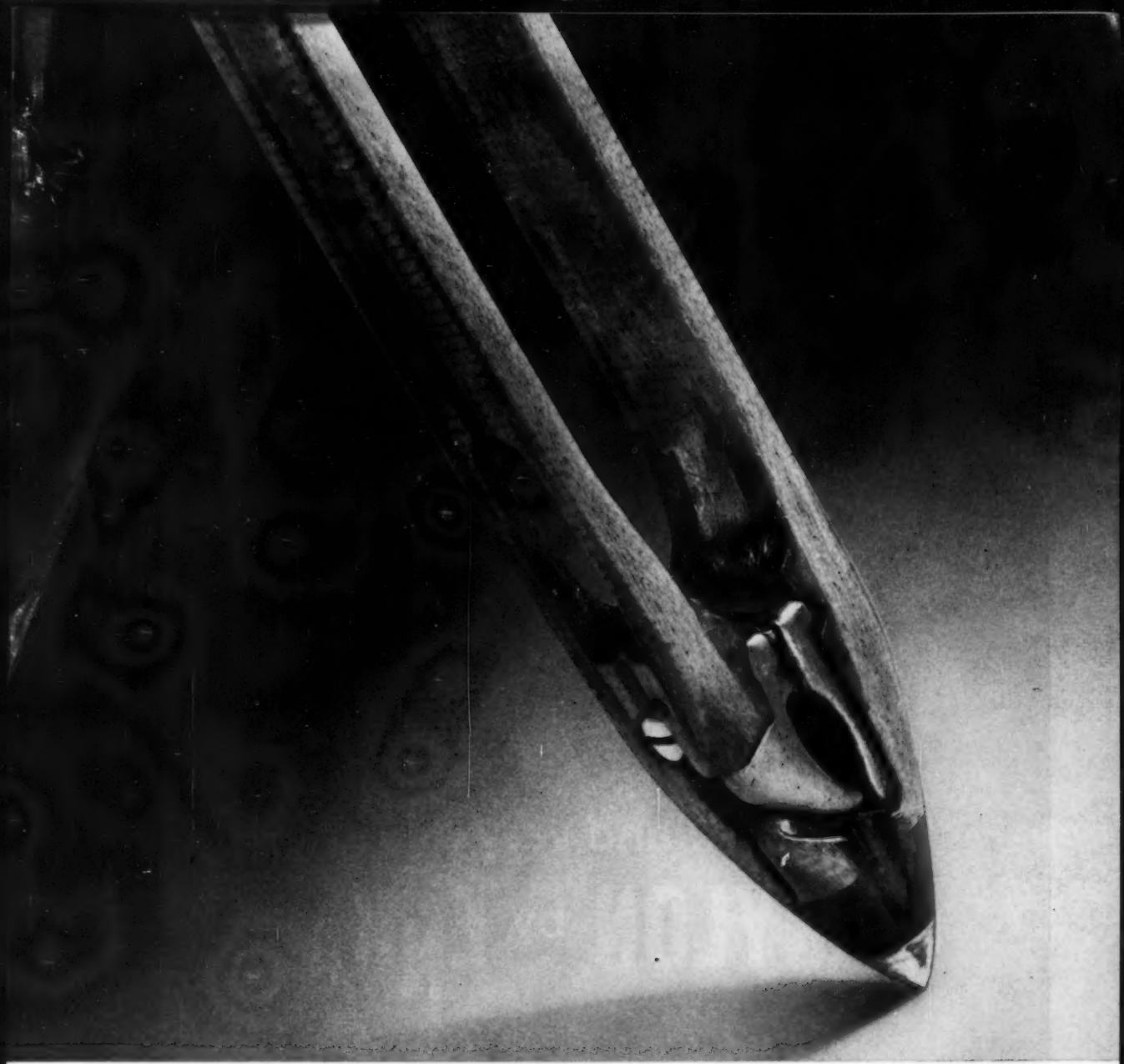
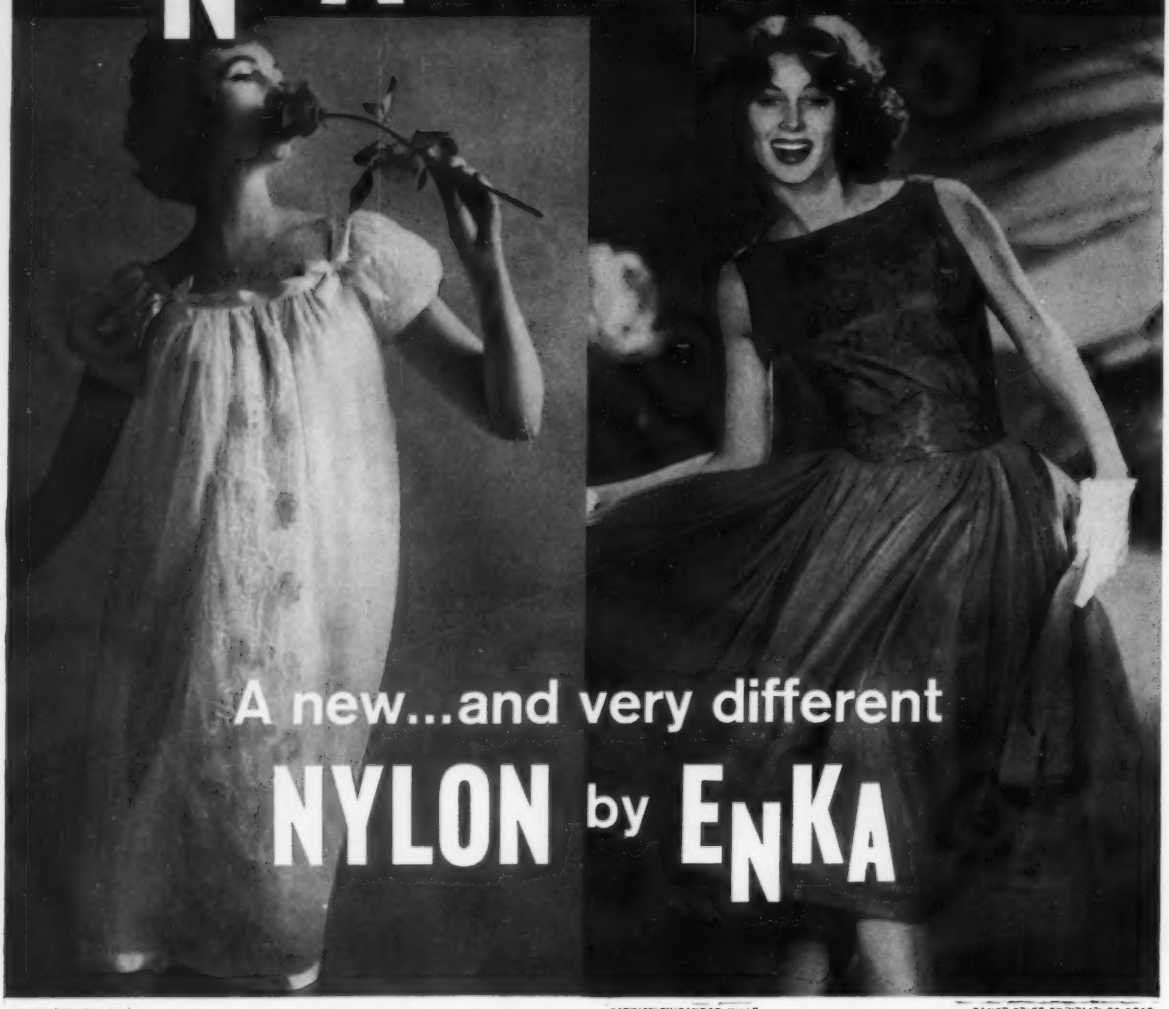


266,000 Miles... a recent performance record achieved by a Draper Tru-Mold Shuttle. This shuttle was in continuous operation for over 20,800 hours and was still in running condition when removed from the loom. While these figures are impressive, they are even more amazing if we consider the number of times the shuttle was boxed and thrown. A quality shuttle coupled with proper care and handling make records of this type possible. For shuttles that last longer ... give better performance... use Draper Tru-Mold Shuttles.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

ENKA PROMOTABLE YARNS MEAN BIGGER PROFITS FOR YOU!



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Tricot converters agree that no nylon takes dyes like Enka nylon...the softer, more lustrous nylon that has taken the market by storm.

Our new nylon has a special appeal for my fair lady because it was researched and developed with her in mind—for her lingerie; hosiery; tricot chiffon blouses, skirts and dresses; sweaters—for all the intimate and outerwear fashions to which Enka nylon brings lasting beauty and superior performance.

It is an unbelievably soft yarn created especially for the things that women wear. National advertising, merchandising and publicity are carrying this compelling sales story to stores and consumers across the country.

Bold fashion ads and hangtags, counter cards and wall and window posters echo this profit-packed selling theme: "A new and very different nylon by Enka...especially for you."

Mills, converters, cutters, knitters, and manufacturers interested in hearing about Enka's "New...and Very Different Nylon" promotion supported by national advertising, merchandising and publicity, contact:

Mr. Arthur B. Harris, Jr. at Oxford 7-6141, Ext. 26, or contact the Enka sales office nearest you.

American ENKA Corporation, 530 Fifth Avenue, New York 36, N. Y. • Chattanooga • Greensboro • Providence

Producers of Jetspun® solution-dyed rayon • Skyloft® lofted filament rayon • Filament and staple rayon • Filament and staple nylon

Textile Industries

Formerly "COTTON"

AUGUST 1959 VOL. 123, NO. 8

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For quality fabrics—four quality latices!

New fibers—new fabrics—new selling features—are spinning out of the textile industry at a record rate. As a constantly increasing number of fabrics are being produced, manufacturers are becoming more and more selective about latices. Quality is vital. And the latex chosen must be *exactly right* for the job.

To meet this need, Goodyear offers four basic latices: PLIOLITE LATEX in two forms (as a rubber or resin dispersion), PLIOVIC LATEX (dispersion of vinyl copolymer resin) and CHEMIGUM LATEX (dispersion of nitrile rubber). They are available in a broad range of monomer ratios, particle sizes and types of stabilization. They can be used alone – or in combination with each other – or as modifiers of your present materials.

Among the benefits you can expect from these latices: better body, drape, strength and dimensional stability –improved flexibility and softness–exceptional resistance to aging – and outstanding wear qualities.

You can also expect the finest in technical assistance when you work with a Goodyear latex. Contact your Goodyear Chemical Division Representative for all the facts. Or write for details—including latest *Tech Book Bulletins*—to Goodyear, Chemical Division, Dept. H-9439, Akron 16, Ohio.

GOODYEAR

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Because it's not enough to supply travelers which meet high standards for uniform weight, precision dimensions, temper and finish, National-Sterling Engineers make it a point to go one step beyond. Each spinning and twisting operation is considered as an individual problem. And there are no "stock" answers. Only the *right* travelers—travelers which meet *all* requirements efficiently and economically — are recommended by the men from National-Sterling from tests made in your own mill.

The result is a production plus you can't afford to overlook. Remember, National Travelers consistently deliver more pounds of first class yarn . . . at higher spindle speeds . . . with fewer ends down. Worth considering the next time you order travelers! Write, wire or phone National Ring Traveler Company and Sterling Division, 354 Pine Street, Pawtucket, R. I. Southern Office and Warehouse: P. O. Box 293, Gaffney, South Carolina.

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SHORTS & REMNANTS

►What will the weather be like this month? Here's the forecast for August, courtesy of "The Old Farmer's Almanac":

Temperature 67-72 (0 to 5 above normal). 3-6" rain. 1-3, humid; 4-10, tornado or two; 10-16, storm from East; 17-25, cool and windy; 26-31, cool and nice.

Applies to Boston but will work for other places by subtracting one day for each time zone west, by reading 5° lower temperature for every 100 miles north of 42 Lat. N., or 5° higher for every 100 miles south of 42 Lat. N., and by considering every 1,000 feet of altitude is 5° cooler.

►The gentleman wielding the shovel in the picture below looks as though shovel-wielding was not his regular job. And that figures, because he's **Dr. Frank C. Campins,** president of Polymer Industries, Inc., and he's turning the first shovelful of earth on the site of Polymer's half-million-dollar plant expansion, which will double its research and development facilities.

Which brings up a point—are men like **Dr. Campins** really being helpful when they take shovels in inexpert hands and start excavating? What do they do with the dirt? If that's

Amco Heliclone Loom Cleaner in Cannon Mills, Kannapolis, N. C.

High quality and efficient production

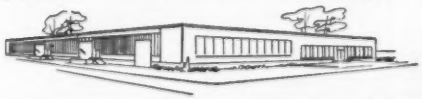
Amco Heliclone® Loom Cleaners help Cannon Mills to maintain these high standards!

At Cannon Mills, Kannapolis, N. C., automatic, continuous cleaning with Heliclone Loom Cleaners helps Cannon to maintain its famous quality — and to meet production schedules. Room appearance is also improved, and employee morale kept high.

Heliclones are designed to help you cut down on the old-fashioned blow pipe and manual method of cleaning. They serve to eliminate end runs and floats, waste bunches, end breakage, overshots, broken picks, and oil spots caused by loose accumulated waste.

Behind the development of the Heliclone is more than 70 years' experience working with textile mills. Amco can help you with your winder and card room cleaning problems, too! Get the facts.

Rotating nozzles driven by air streams form overlapping circular paths. Results: high velocity bursts of air over loom and warp surfaces for best cleaning. Supplementary outlets clean track and ceiling.



Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

AMCO

Since 1888

AIR CONDITIONING EQUIPMENT

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This man is developing 16 tons of pressure to make smoother, stronger joints

Sixteen tons of pressure, developed by this man through use of a Clipper lacer embeds hooks firmly and securely . . . to make a joint as durable as the pieces you are joining. It embeds the hooks flush with the surface and with all strain distributed evenly across the complete joint. The Clipper machine method of making joints is the fastest available. In one easy operation, durable, flexible joints up to 12 inches wide connecting pieces from 1/16 inch to 13/32 inch thick are completed by Clipper. Whenever you have a problem of making two pieces one — Check with Clipper.

For more information— *Detailed product information and case history examples of Clipper machine-lacing benefits are contained in Bulletin No. 157. Send for your free copy today.*

Ask your Industrial Distributor for Clipper Products

Clipper BELT LACER COMPANY

980 Front Ave., N. W., Grand Rapids 2, Michigan

SHORTS & REMNANTS

(from page 6)

the first shovelful he's turning in the picture, where did that big hole come from? What does the union think of nonmembers helping on the job?

Anyway, that's **Patrick Deluca,** president of the construction company doing the building, who's standing by with a quizzical look on his face. And you don't see *him* with a shovel.

Likes Goldberg's Column

" . . . there is so much research going on now that it is a real problem to have some . . . service that will make the task of keeping informed easier. I think that J. B. Goldberg's ["Recent Technical and Commercial Developments," published monthly in TI] is a good help in this direction."

C. H. FISHER
Dir., Southern
Utilization R & D Div.,
USDA, New Orleans, La.

We're Hounded With Pictures

One of our readers sent us his picture recently, although we admit that he told us that TI is not his favorite magazine—it comes second, after *Field & Stream*. Here he is, reading his second choice:

He tells us that his favorite reading matter in TI is articles on hound's-tooth checks. Says his warp is worse than his woof.

Drip-Dry Closets

We are indebted to our sister magazine in the W.R.C. Smith family, *Southern Building Supplies*, for this news: Drip-dry closets for wash-and-wear clothing may shortly be one of homebuilding's most revolutionary ideas. It probably all started when a Connecticut builder recently included such a facility in a $50,000 home—and at a total cost of $40. The 2½-inch wide, 2-foot deep closet has a copper pan floor, a 2-inch center drain connected with kitchen plumbing, and a chrome clothes pole. Plaster walls are waterproofed with a plastic material, while a louvered

ROBERTS *SUPREME* SPINDLES

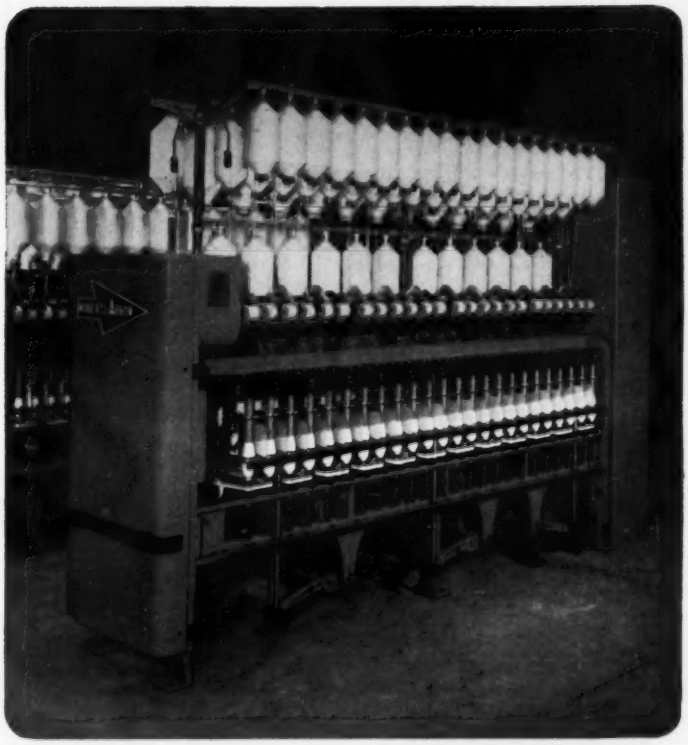
- Two Extra-Wide Grease-Packed Ball Bearings
- Widely Spaced at Base Top and Bottom
- No Lubrication Ever Required
- Speeds up to 15,000 R.P.M.
- Unique Design for Top Drive Filling
- For Warp up to 12¼-inch Tubes and 1¼ lbs.
- Simple Finger-Tip Cam-Brake Optional

Supreme Spindles are manufactured to super-precision tolerances and are unconditionally guaranteed. Ball bearings and boots are guaranteed in normal use for five years.

A FEATURE OF

ROBERTS ARROW

ALSO AVAILABLE AS CHANGE-OVER MODERNIZATION ON ANY MAKE OF FRAME



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ARROW SPINNING features:

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- Unitized Sectional Frame
- AeroCreel with Latch-Type Bobbin Holders
- Flexibility For Cotton And Synthetics

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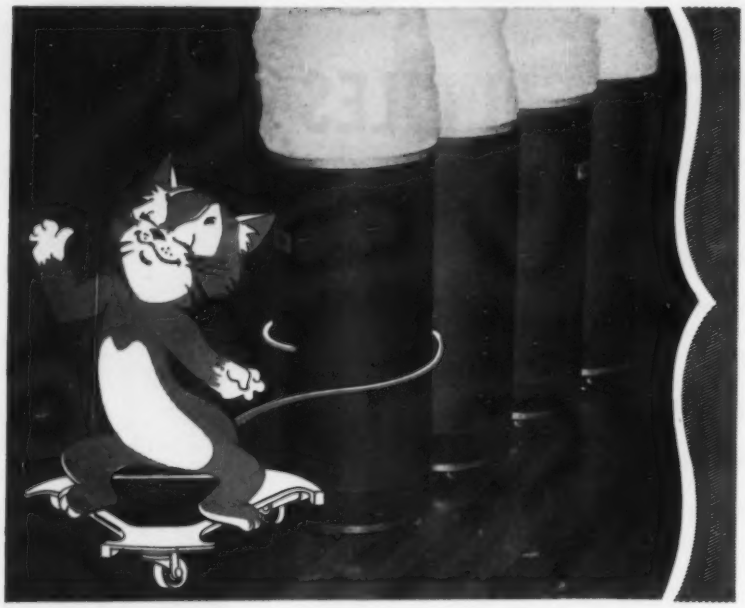


SOUTHERN STATES LARGE COILERS AVAILABLE WITH NEW ALLEY-SKAT TO SPEED DOFFING AND CONVEYING

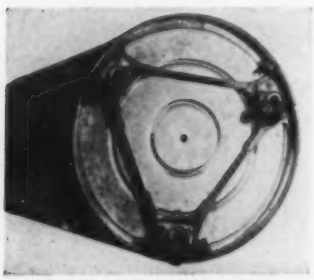
Large-size Southern States Coilers are now available with ALLEY-SKAT, the simplest, most economical can conveyor system ever developed. The problem of doffing and moving heavier cans may now be solved with a low capital outlay.

For example, suppose you are equipping your mill with large Southern States Coilers: if you decide to employ ALLEY-SKATS, you can specify that special cantable adapter plates be included at no extra cost. The only additional charge is for the can latches and ALLEY-SKAT dollies, which are available at nominal cost.

The latches and dollies are easily and quickly installed on any standard can without drilling or alteration.

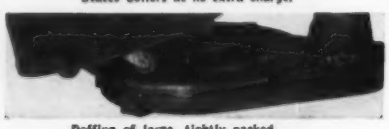
The ALLEY-SKAT is strictly optional equipment. However, if you are concerned with handling large cans, as most mill men are, we suggest that you investigate the ALLEY-SKAT.

Get full information from your Southern States representative or write for Bulletin 501.



ALLEY-SKAT Dolly mounts to inside of can rim. Dollies are made of finest materials, including heavy-duty mill-type casters.

Cantable adapter plate is available as standard equipment on Southern States Coilers at no extra charge.



Doffing of large, tightly packed cans is quickly and easily accomplished. No lifting required.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

SHORTS & REMNANTS

(from page 8)

door provides necessary ventilation. Which reminds me that TI will have another special feature on wash-and-wear in our October issue, a follow-up on last year's survey of the drip-dry field.

Liked Article on His Plant

" . . . impressed with the scope of the article which you wrote on our Stonehenge plant ["Automatic Vat Printing," TI for June, p. 92] . . . tremendously pleased not only with the way you wrote the article, but also with the complete coverage you gave us with those photographs . . . intend to distribute extra copies to our customers . . ."

DOUGLAS HARDY
Stonehenge Processing Corp.
Cedar Grove, N. J.

Likes TI Photos

" . . . I'd like to commend you on TI's new pictorial work on each article. This brightens up the article tremendously, and my reaction to it was that TI is really up to date . . ."

J. L. DELANY
Gen. Supt.
Joanna Cotton Mills Co.
Joanna, S. C.

Reprint Requests

"Resin Odors in Fabrics Eliminated" (Apr. 1959)—**John R. Roscow,** The United Piece Dye Works, Los Angeles, Calif.

"Tool Aligns Knitting Machine Pawls" (Mar. 1959)—**D. B. Nichols,** supt., Whisnant Hosiery Mills, Inc., Hickory, N. C.

"Symposium on Core Testing Wool" (Jan. 1950)—Agricultural Marketing Adviser to the Government of India, Nagpur.

"Wash-and-Wear" (Nov. 1958)—**W. A. Hunt,** product mgr., Excelsior Mills, Inc., Pendleton, S. C.; Le President Directeur General Promaco, Mulhouse, France; **Gerardo Pozas S.,** Hilados del Norte, S. A., Monterrey, Mexico.

"All of Us Lose on Mixed Filling" (Poster, May, 1959)—**D. D. Rice,** supt., Wennonah Cotton Mills Co., Lexington, N. C.; **Robert B. Stevens,** Northampton Textile Co., Mount Holly, N. J.; **H. L. Cohen,** Turpan, Inc., E. Paterson, N. J.; **F. Milne,** PA, Paton Mfg. Co. Ltd., Sherbrooke, P. Q.

"Here's What Was New at Manchester" (Dec. 1958)—**T. S. Chang,**

(Continued on page 20)

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from RANDO-WEB® NONWOVENS
mean BIGGER PROFITS for YOU

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There is a RANDO-FEEDER® and RANDO-WEBBER® to fit most requirements in 40", 60" and 84" widths. There are no other machines in the world that can make uniform random webs like them.

The Curlator FIBR-SAVR, now available for these machines, gives added economy to the manufacture of nonwovens. It trims one or both sides of web or multiple slitting in any desired strip width and returns the trimmed (unbonded) fiber to the feeder for reprocessing.

It will pay you to see webs made with natural or synthetic fibers or blends on the RANDO-FEEDER and RANDO-WEBBER.

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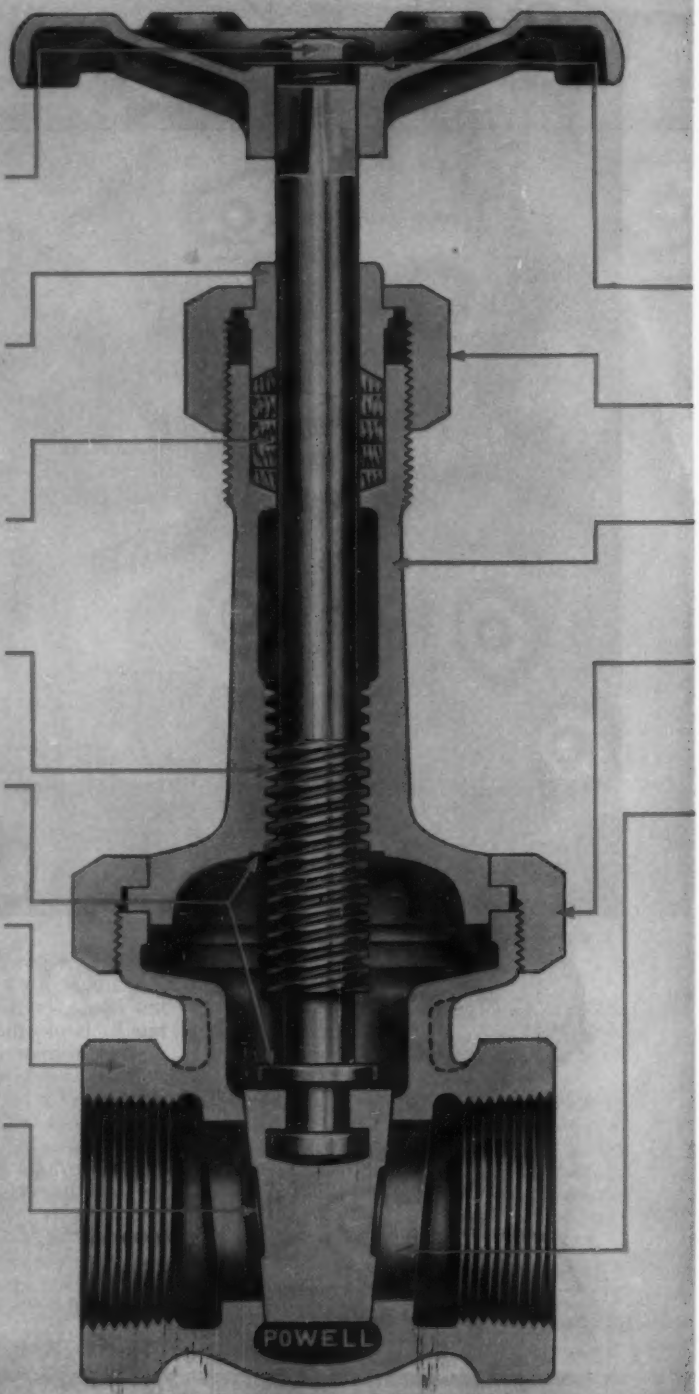
ANNOUNCING NEW **POWELL**



Handwheel Nut—securely holds malleable iron, non-heating handwheel to the stem.

Protruding Packing Gland—a Powell feature—compresses the packing, offers additional guidance to the stem, and prevents packing nut from becoming loose and rotating with stem.

Deep Stuffing Box—holds more than ample amount of high-grade steam packing.

Stem—is high tensile bronze, extra heavy, of large diameter, with long Acme threaded section.

Repack-Under-Pressure Seat and Collar—permit valve to be repacked under pressure when fully open.

Body—a high tensile bronze casting, scientifically designed to provide full flow area through the valve.

Wedges—Interchangeable Solid or Double Wedges are available in rising stem valves. They are held to stem by a "T" slot, and are accurately guided to valve seats by means of integral cast lugs that travel in female guideways in the valve body. Entirely clearing the waterway, full unobstructed flow through is assured.

Sectional—Union Bonnet Rising Stem Gate Valve Fig. 2700—125 pounds, Fig. 2714—150 pounds.

POWELL...world's largest family of valves

BRONZE UNION BONNET GATE VALVES

for 125 and 150 pounds WSP

These new BRONZE Union Bonnet Gate Valves have many superior features—some of which are outlined here. For complete details, write for new illustrated circular. Or check with your nearest Powell Valve distributor.

Identification Plate—gives Figure Number and kind of valve.

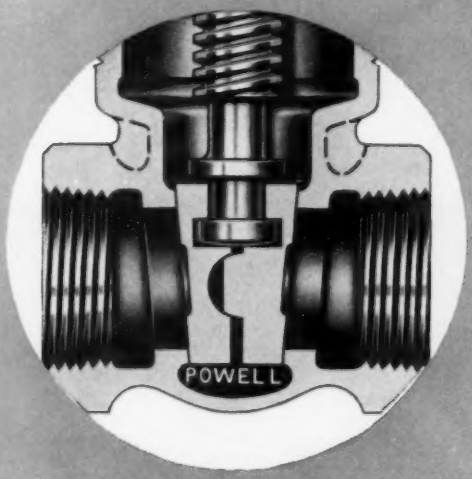
Heavy Hexagonal Packing Nut—for holding gland and adjusting packing.

Long Bonnet—cast of high tensile bronze for long service.

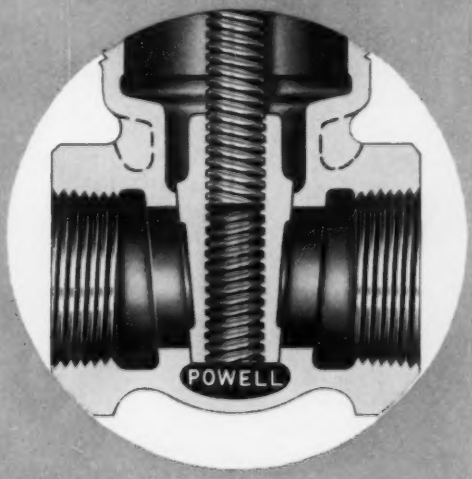
Octagonal Ring Nut—is deep threaded and tightly holds body-bonnet connection. Affords additional wrenching positions.

Ample Space—between seats and end of pipe thread prevents injury to seats when screwing pipe into the body.

Fig. 2707—125-pound Union Bonnet Non-Rising Stem Gate Valve. Also available for 150 pounds—Fig. 2712.



Detail of Sectional View Inside Screw Rising Stem Gate Valve showing Double Wedge Disc and Integral Seats.



Detail of Sectional View Non-Rising Stem Gate Valve showing Solid Wedge Disc that rises on stem. Integral Seats.

THE WM. POWELL COMPANY • *Dependable Valves Since 1846* • **Cincinnati 22, Ohio**

W. L. Caviness, Overseer of Spinning at Cone Mills Corporation White Oak Plant, Greensboro, N. C., discusses roll covering problem with Armstrong representative Harold H. Jordan.

Your Armstrong man can help you

GET MAXIMUM PRODUCTION OF HIGH-QUALITY YARN

Your high-draft frames were built to give you maximum production of quality yarn. And the right spinning cot can help them do just that. Selecting the right cot can be a problem, however, because performance can vary with the frame they run on and the fiber being spun.

If you have such a problem, it's a good idea to talk it over with your Armstrong representative. His wide training and experience can be very helpful . . . and he can make dependable recommendations based on the wide variety of materials available in the Accotex line.

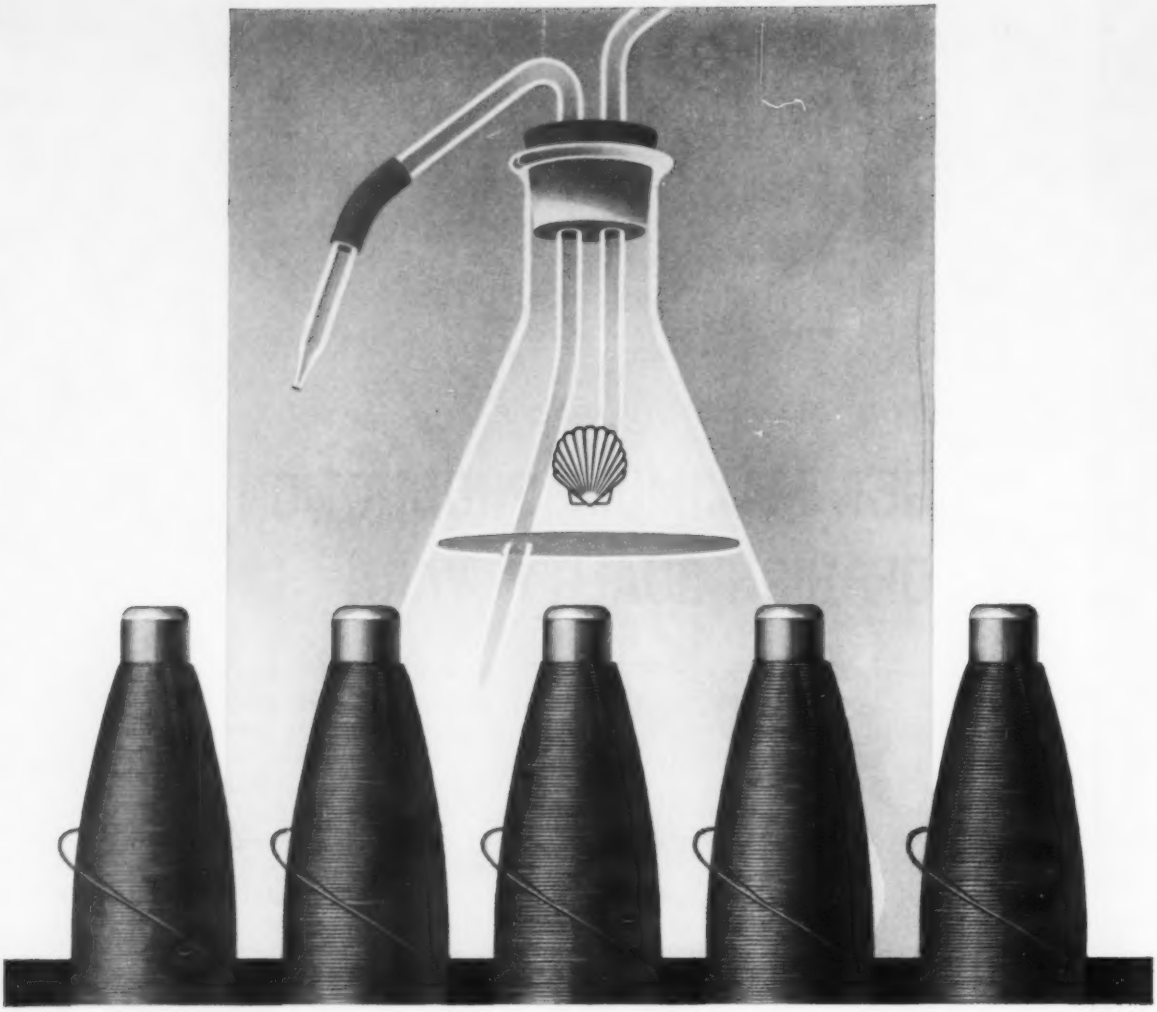
For example, if your front-roll lap-up rate is increasing, new Accotex anti-static cots may give you the help you need. These new cots are specially made to combat lapping caused by high static. If eyebrowing is a problem on spinning and roving frames with flat clearers, a switch to Accotex NC-762 will help to eliminate it.

On some frames, a softer cot material has been found to improve break strength and reduce yarn irregularities. Accotex Cots made of softer compounds are available to meet this need.

On any frame . . . with any fiber . . . Accotex Cots will help you get maximum production of top-quality yarn. Your Armstrong man will be glad to help you select the right roll cover for best performance. Armstrong Cork Company, 6508 Ivy Street, Lancaster, Pennsylvania. All Armstrong Textile products are available for export.

Armstrong ACCOTEX COTS

. . . used wherever performance counts



How Shell Chemical serves the textile industry

Chemicals play a vital role in the textile industry. Having the right chemical for the job helps produce *better* fabrics. Shell Chemical is a convenient, dependable source for the chemicals listed at the right.

Hydrogen peroxide serves as a rapid, economical bleach and as an oxidizer for making vat colors brighter. Acetone is a spinning solvent for acetate rayon. Glycerine is a popular moistening agent for fibers and for textile printing compositions.

Eponite® 100 is a very effective, non-chlorine retentive resin for production of minimum-care fabrics. It imparts increased wrinkle resistance to cottons and rayons and reduces rayon shrinkage to a fraction of one per cent.

• • •

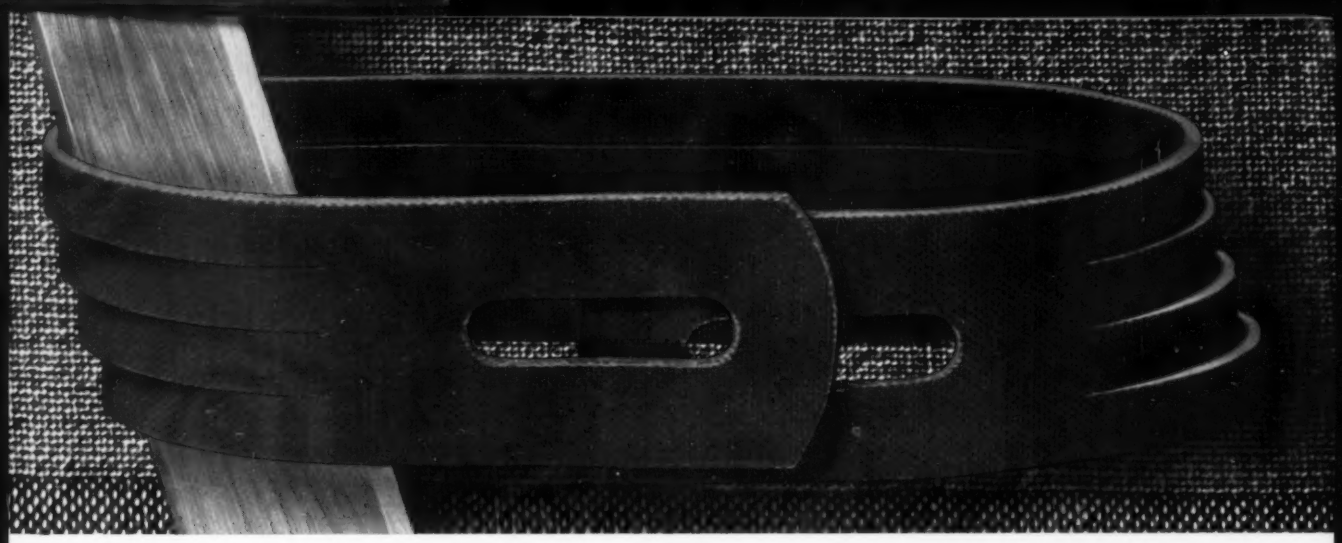
A Shell Chemical representative will be glad to discuss your specific needs. Write your nearest Shell Chemical district office for samples and technical literature.

Acetone
Eponite 100
Ethyl Alcohol
Glycerine
Hexylene Glycol
Hydrogen Peroxide
Isopropyl Alcohol
Methyl Ethyl Ketone
Methyl Isobutyl Ketone
Sodium Sulfonates

SHELL CHEMICAL CORPORATION
INDUSTRIAL CHEMICALS DIVISION

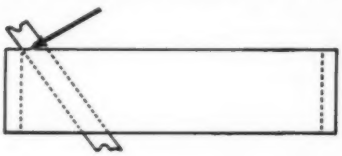
Atlanta • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco
IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited, Montreal • Toronto • Vancouver

SHELL

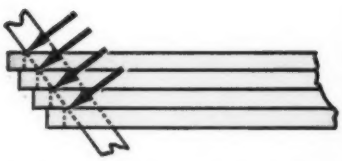


Gates 4-in-One Check Strap LASTS up to 3 TIMES LONGER

New Checking Principle is Secret of Longer Wear—



With the ordinary one-piece check strap, all shock and wear from the picker stick are concentrated at one point.



Gates 4-in-1 Check Strap is built with four separate bands. As the checking action begins, a portion of the picker stick force is absorbed by the top band—then in turn, the second, third and fourth bands each absorb a portion of the shock, providing a checking action that is smooth and even. Wear is distributed evenly over the entire width of the strap, increasing service life up to 3 times.

You Get These Important Benefits:

Unaffected by Changes in Humidity—no stretch or contraction—ready to go Monday mornings without time-consuming adjustments.

Stronger and Tougher than Leather—yet flexible and light in weight.

Absorbs Shock of Picker Stick—resilient and flexible—conforms to any action of the picker stick, absorbing blows and shocks.

Saves Installation Time—quickly installed and adjusted without removing picker sticks. No new brackets needed.

Competitive Price—even though Gates 4-in-1 Check Strap has many important advantages over ordinary straps, it is competitively priced. For faster, more economical production, equip your looms with *all* Gates *specially engineered* accessories . . . available from Gates Textile Distributors.

Gates Distributors are in the Yellow Pages

Gates

The Gates Rubber Company, Denver, Colorado

The Mark of *Specialized* Research

TPA-900

Take-up Roll Coverings
Card Bands
Cone and Evener Belts
Spinning Frame Drives

Reversible Pickers

Tex-Hide Harness Straps

Tex-Hide and Vulco Loop Pickers

Thin Tex, Vulco, Tex-Hide & Super Tex-Hide Lug Straps

Gates Textile Accessories

I'm Mr. P.G.

I GET AROUND WHEREVER THERE ARE WARP SIZING AND FINISHING PROBLEMS

Penford Gums are extremely versatile hydroxy-ethyl ether starches . . . well qualified in both fluid and dried film states . . . as *Warp Sizes* for Cottons, Worsteds, Synthetics and blends.

. . . As a *Textile Finishing Gum,* Penford Gums contain an optimum degree of hydroxyethyl ether . . . provide superior finishes.

. . . As a *Printing Gum,* Penford Gums are extremely effective, assuring sharp prints, good color yield.

. . . As a *Polishing and Glazing Gum,* Penford Gums lend their exceptional elastic filming properties as a size to cords and threads.

For special jobs — wire Technical Service Penick & Ford, Atlanta HAVE GUM WILL TRAVEL

P&F

Penford Gums

Leaders in Epoxy Starches

PENICK & FORD, LTD.
INCORPORATED

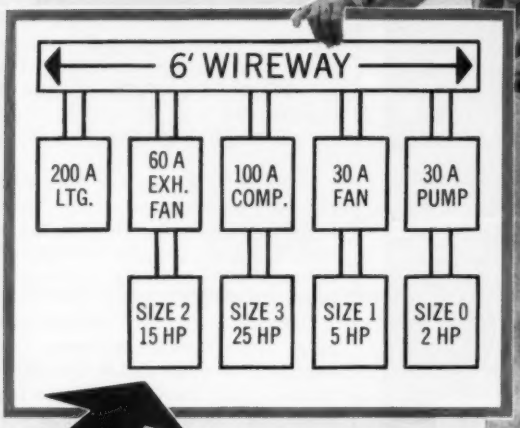
TEXTILE
TECHNICAL
SALES DEPARTMENT

1831 MARIETTA BLVD., ATLANTA, GA.

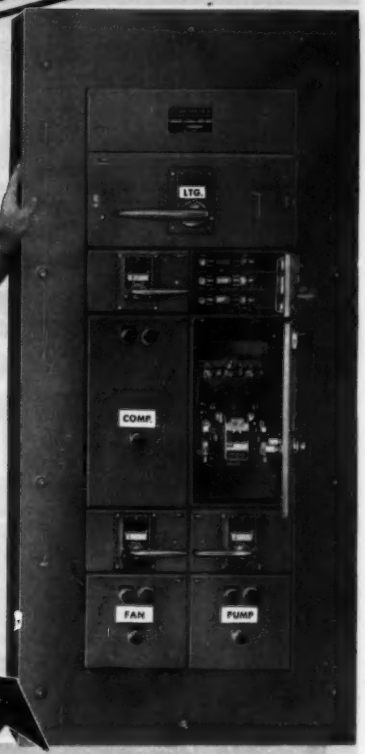
Manufacturer of Douglas Pearl • Crown Thin Boiling • Douglas Dextrines • Clearsol Gums for the Textile Industry

STARTERS IN QMB PANELBOARDS!

ANOTHER SQUARE D FIRST!

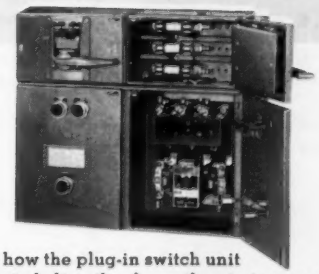


IT TAKES
41 HOURS AND 6 FEET
OF WALL SPACE TO INSTALL AND WIRE SWITCHES AND STARTERS LIKE THIS



IT TAKES
12 HOURS AND 30 INCHES
OF WALL SPACE FOR THE SAME INSTALLATION WITH A QMB STARTER PANELBOARD

Why mount separate starters and disconnect switches? It costs extra money. It wastes space. It takes a lot more time. QMB Starter Panelboards give you a *safer* installation because you can't open a starter when the switch is ON. They give you a much *better looking* job. Since they can even be *flush* mounted, they offer a lot more installation *flexibility*. QMB panelboards accommodate reversing and non-reversing starters, sizes 0 through 3. QMB switchboards and unit substations handle sizes 0 through 5. All of them are available, factory-assembled and wired. Or get enclosures, starters and plug-in switch units from your Square D distributor for on-the-job assembly.



Notice how the plug-in switch unit is mounted directly above the starter, permitting interlocking. The starter cannot be opened when the switch is in the "ON" position.

It's easy to order these starter and switch units. See Page 57 in your Square D Digest and order from your distributor.

EC&M HEAVY INDUSTRY ELECTRICAL EQUIPMENT...NOW A PART OF THE SQUARE D LINE

SQUARE D COMPANY

Save MATERIAL! Save TIME!

get MORE PRODUCTION

from your tenter frames . . .

GPE Controls

CLOTH GUIDE

Run tenter frames and other production machinery faster . . . and turn out better work. GPE Controls Cloth Guide lets you pin or clip more accurately, more surely . . . actually improves product quality while you cut production costs. Get the facts about this inexpensive way to modernize old equipment and insure top production from new equipment.

- for jobs of any size . . . smallest to largest
- most accurate tenter frame control
- completely non-contact . . . nothing touches the cloth
- ideal for all kinds of cloth, from the lightest scrims to the heaviest woolens.
- adaptable to any kind of machine
- air-sensing or photoelectric models . . . all with simple, low-cost hydraulic power
- the only cloth guide made by automatic control experts

Mail coupon for the FACTS

GPE Controls | A GENERAL PRECISION COMPANY

GPE Controls, Inc. (Subsidiary of General Precision Equipment Corp.)
260 East Ontario Street, Chicago 11, Illinois

Send me FACTS about GPE Controls cloth guides. I am interested in controlling .....(make of tenter frame) or a .....(other type of machine).

Name..... Title .....

Company.....

Address.....

City..... Zone ..... State .....

SHORTS & REMNANTS

(from page 10)

The Shanghai Wool Institute.

Man-Made Fibers Chart (Aug. 1958)—**Anita M. Routzahn,** Fantasy Yarns, Inc., Philadelphia, Pa.; **D. C. Higley,** wool purch. agt., Bigelow-Sanford Carpet Co., Inc., NYC; **Peter V. Catlos,** gen. mgr., Canadian Ribbon Tape Co. Ltd., Montreal, P. Q.; **Sara J. Pendarvis,** librarian, May Plant, Du Pont Co., Camden, S. C.; **Virginia Carpenter,** asst. prof. textiles, U. of R. I., Kingston.

"Quickly Find Warp Take-Up" (May 1959)—**Rene St. Onge,** J. P. Stevens Marland Plant, Andover, Mass.; **Saul Laniado,** sec., Silron Textile Mills, Inc., NYC; **William C. Menzies, Jr.,** tech. dir., Lowell (Mass.) Technological Inst. Research Foundation.

"How Many Fibers Per Yarn Cross Section?" (nomogram), June 1959—**E. L. Jordan,** United Merchants and Manufacturers, Inc., Greenville, S.C.; **Robert W. Webb,** USDA, Washington, D.C.

"Battery Filling Streamlined," June 1959—**Lynn Williams,** cost dept., J. P. Stevens & Co., Inc., South Boston, Va.; **David A. Macfarlane,** managing dir., The Canada Hair Cloth Co. Ltd., St. Catharines, Ont.

Articles on leotard tights, Jan. and Mar. 1959—**W. O. Corvin,** Walridge Hosiery Mill, Inc., Marvell, Ark.

"Weaving in 3-D," July 1958—**Arthur F. McNally,** corp. prod. dev., Collins & Aikman, NYC.

"Purchasing for the Textile Industry," Feb. 1956—Res. dept., Cresap, McCormick and Paget, NYC. (No reprints left on this one.)

"Textile Research Achievements in 1958," Feb. and Mar. 1959—Librarians at Callaway Mills Co., LaGrange, Ga., and Institute of Textile Technology, Charlottesville, Va.

"Printing With Pigments," May 1959—**John W. Ogletree,** v-p, Polymer Industries, Inc., Springdale, Conn.

"Wash-and-Wear," Nov. 1958—Library, Dow Chemical Co., Williamsburg, Va. And so on.

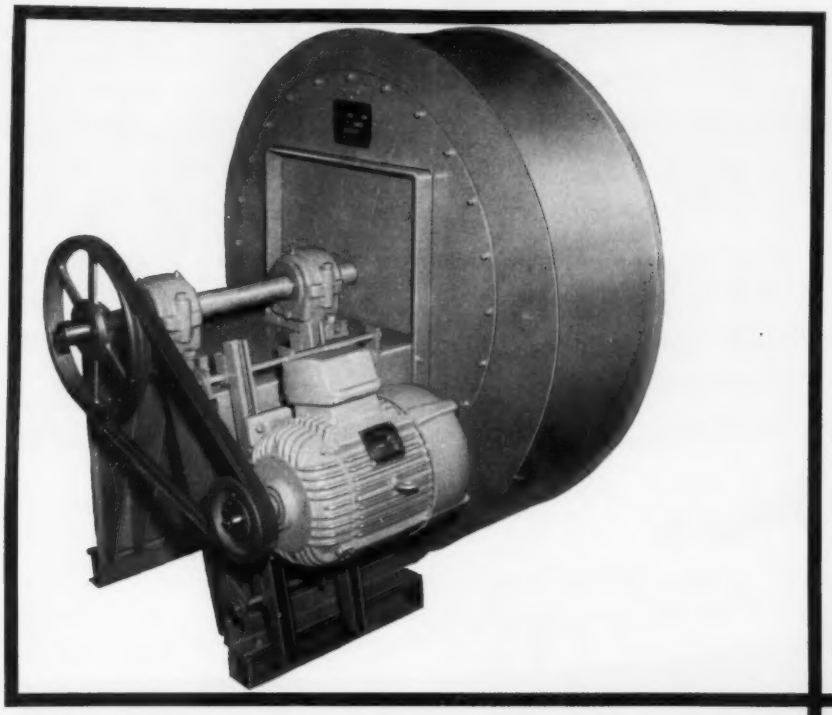
Merchandising Hint

Dorothy Diamond, columnist for *Printer's Ink,* asks in a recent issue for "Permanent printing on stocking tops to facilitate matching and reordering."

Wants U. S. Connections

" . . . we are interested in collaborating with U.S. concerns to manufacture textile testing instruments,

(Continued on page 30)



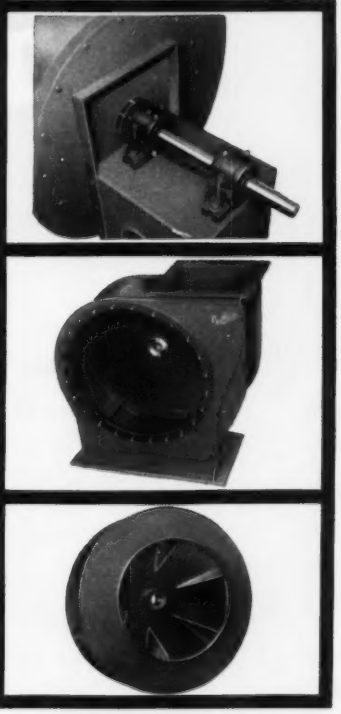
From Rugged Hot Gas Applications To Tough Materials Handling Jobs...

"BUFFALO" EXHAUSTERS CAN TAKE IT!

"Buffalo" Industrial Exhausters are ruggedly built, highly efficient heavy duty fans designed for a wide variety of applications. Husky steel plate housing is welded throughout. Adjustable to any discharge direction. Reversible for clockwise or counter-clockwise rotation. Available in numerous arrangements for many severe air and materials moving jobs. These include:

- **Moving Hot Gases** — 200° F. to 850° F. For this purpose units are equipped with heat slingers, high temperature ball bearings and/or separated steel bearing subbase.
- **Handling Corrosive Fumes.** Installations have proved that "Buffalo" Rubber-Lined Exhausters will outlast metal fans up to twelve to one. Rubber is vulcanized directly to all metal parts exposed to acid fumes.
- **Materials Moving.** Type "MW" material wheels are available for moving emery dust, saw dust, chips, long shavings and many other types of materials.

Investigate the advantages of "Buffalo" Industrial Exhausters for your severe air or materials moving jobs. Phone your "Buffalo" engineering representative, or write for Bulletin FI-110.



Upper: Heat Slinger for cooling shaft and bearings on a "Buffalo" Hot Gas Exhauster.

Center: "Buffalo" Rubber-Lined Exhauster for corrosive fume handling.

Lower: "Buffalo" Type "MW" Material Wheel.

BUFFALO FORGE COMPANY
Buffalo, N. Y.

Buffalo Pumps Division • Buffalo, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING EXHAUSTING AIR CLEANING FORCED DRAFT AIR TEMPERING COOLING INDUCED DRAFT HEATING PRESSURE BLOWING

Any dyer, purchasing agent, chemist or mill official knows the value of purity — in both the purchasing of raw materials and the processing of the finished product.

Take salt, for example. About one-half its cost is freight! So, they say: "Why pay for shipping unwanted impurities?" And the fact is — you can't buy a purer rock salt than Jefferson Island.

For all salt needs — rock or CMF (Calcium Magnesium Free) — most companies call The Man from Diamond Crystal. Why don't you? He has the facts, the proof, the service.

Diamond Crystal Salt Co., St. Clair, Michigan

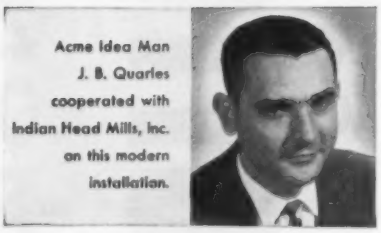
Plants located at Akron, Ohio;
Jefferson Island, Louisiana; St. Clair, Michigan.

Jefferson Island DIV.

DIAMOND CRYSTAL SALT CO.

Know your AIM*...Indian Head Mills, Inc. does...

Steel Strapping Machine closes textile boxes



Acme Idea Man J. B. Quarles cooperated with Indian Head Mills, Inc. on this modern installation.

INDIAN HEAD MILLS, INC., Cheraw, South Carolina, uses an Acme Steel Model F1 Semi-Automatic Strapping Machine to close and reinforce boxes of their well-known, quality, "Indian Head" brand textiles. Now, only one man is required for the strapping operation . . . a saving of 8 to 12 man hours per day. (Idea No. S5-5)

Served by a conveyor system, the F1 applies as many steel straps as desired in a matter of seconds with uniform, pre-determined tension. Electrically powered, the machine is controlled by push-buttons. Strap is cut automatically, and ends are instantly and permanently joined by spot welds. The machine handles containers of various sizes in any sequence without adjustment. A special track feeds the strap to within easy operator reach.

***Know your Acme Idea Man.** He is sure to provide clues to better ways of protecting and shipping your products. Call him today at a nearby Acme Steel office. Or write Dept. TIS-89, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.

ACME STEEL **STEEL STRAPPING**

The versatile weave room is the UNIFIL® -equipped weave room

. . . and these mills know it:

- Amerotron
- Berkshire-Hathaway
- Burlington
- Cannon Mills
- Cone Mills
- Exposition Cotton Mills
- Greenwood Mills
- Frank Ix & Sons
- Judson
- Laurens
- Marion Mfg.
- Pepperton Cotton Mills
- Schwarzenbach, Huber
- William Skinner
- J. P. Stevens
- United Merchants
- Woodside Mills

UNIVERSAL WINDING COMPANY
PROVIDENCE

BOSTON · PHILADELPHIA · CHARLOTTE · ATLANTA · LOS ANGELES · MONTREAL, HAMILTON, CANADA

ARIDYE-AQUAPRINT COLORS

Give You Fastness Both to Washing and Drycleaning

For really washfast and drycleanable prints, make your selections from these Aridye and Aquaprint Colors. They withstand repeated home washings, commercial launderings, and vigorous drycleanings. And the lightfastness of most of these colors meets normal drapery requirements. For many purposes, these Aridye and Aquaprint Colors outperform even the best dyes. They're suitable for fast-color printing cottons, synthetics, and blends for apparel and household uses.

We'll be glad to send you samples and detailed information on any or all these colors.

ARIDYE and AQUAPRINT COLORS	WASHING (A.A.T.C.C. No. 4 Test)	DRYCLEANING Perchlorethylene	LIGHT
Chartreuse	★	★	●●
Yellow 3G	★	★	●
Golden Yellow RF	★	★	●●
Orange R	★	■	●
†Scarlet RD	★	★	●
Red RF	★	★	●●
Red B	★	■	●●
Red 2B	★	■	●
Pink 3B and Y	★	★	●●
Rubine 2B and 5B	★	★	●
Violet 3RD	★	★	●●
Violet 4B	★	★	●●
Blue 2R	★	★	●●
Blue 2G and 2GN	★	★	●●
Blue 3G	★	★	●●
†Blue 4G	★	★	●●
†Blue 5G	★	★	●●
Green B and Y	★	★	●●
Green 2K	★	★	●●
Brown Y	★	★	●●
Brown 3K	★	★	●●
†Gray 2B	★	★	●●
Black K	★	★	●●
†Black 2K	★	★	●●

Aridye® COLORS

Aquaprint® COLORS

Interchemical Corporation

Color & Chemicals Division

HAWTHORNE, NEW JERSEY

Now....a new PERKINS
3-ROLL CALENDER
with many advanced features

High production and better finishing combine with easier operation and lowest maintenance cost to make this all-new Perkins 3-roll calender the "Calender of Tomorrow." Designed and built to give years of trouble-free operation, its many advanced features include:

- **Quick removal of intermediate roll without removing cheek pieces**
- **Independent pressure control of both sides of calender**
- **New let-off and wind-up**
- **Heavy welded steel frames and bearing housings**
- **All rolls run in tapered bore bearings for quick removal**

THE WORLD'S LARGEST MANUFACTURERS OF CALENDER ROLLS

B. F. PERKINS & SON, INC.

HOLYOKE • MASSACHUSETTS

With the STROBOTAC® You Can SPOTLIGHT These Troubles:

- Dirty or slack bands and tapes
- Spindles that need oiling
- Poor spindle spring pressure
- Crooked idlers
- Chokes in idlers, under spindles, on bolster, on spindle clutch, or in bobbins
- Spindles out of plumb
- Sluggish oil in spindle bolster
- Crooked or worn spindles
- Crooked bobbins
- Bad rings
- Bad or worn travelers
- Ring rail not level
- Band and tape out of whorl
- Thread in whorl
- Excessive band and tape slippage
- Split and worn bobbins
- Bobbins that do not properly fit the spindle
- Laced fliers controlling yarn tension
- Uneven yarn
- Mixed yarn
- Oily yarn
- Slap of balloon

The Strobotac is an accurate stroboscopic tachometer. Speeds up to 100,000 rpm readily measured; flashing range is from 60 to 14,400 rpm as indicated on a direct reading scale. This instrument can be used for slow-motion studies from 300 to 100,000 rpm. Accuracy is $\pm 1\%$ over most of range. One control adjusts flashing rate to desired value. Operates from 115v, a-c line . . . **$170.**

Write for Complete Information

GENERAL RADIO COMPANY

WEST CONCORD, MASSACHUSETTS

NEW YORK AREA	CHICAGO	PHILADELPHIA	WASHINGTON, D.C.	SAN FRANCISCO	LOS ANGELES	IN CANADA
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USP PALLETAINERS®

Typical of the custom-built Textile Palletainers, these units are equipped with half-side, drop-gate for easy accessibility to contents and caster mounted for easy floor maneuverability.

Another interesting example is this (26"x38"x32") unit—selected by several plants as the best "standard" size for general floor operations.

NOW

CUSTOM-BUILT for the TEXTILE INDUSTRY

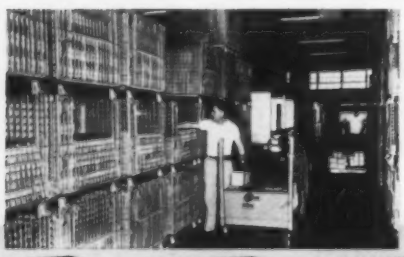
Lightweight Sizes and Types to Meet All Needs for Processing, Storage, Interplant Transport and Shipping
Special Snag-Proof Finishes Over Steel Mesh
Safe Stacking . . . Fold-Down and Castered Models

TEXTILE PALLETAINER Applications are Unlimited!

- Contents always visible—always protected
- Stack safely—save floor space
- Higher Capacities—less tare weight
- Smooth, sturdy steel mesh—special plastic, lacquer or paint finishes
- Drop sides, ends or gates—accessibility
- Reinforced deck base—safe lift truck handling
- Fold-down features for freight savings

USP Palletainers are available in pre-engineered, custom-built models to meet Textile Industry application requirements.

Textile Palletainers offer modern container advantages plus unit-handling methods, safety, special protective finishes—and the simplicity of space-saving storage or rapid movement and shipment of unitized loads. Textile Palletainers are rapidly revolutionizing handling methods for in-work storage of cones, springs, quiller bobbins—even delicate yarns. Palletainers, with protective liners, have proven invaluable for threads through all stages of wet and dry finishing, storage and shipment.



This plant saves valuable floor space by stacking their Textile Palletainers during processing and storage operations.

Write Today . . . for complete information and prices on USP Textile Palletainers to meet your need.

Regular Heavy Duty Hi-Lode Palletainers are immediately available in a wide range of standard sizes, types and capacities to 6000 lbs. per unit.

PALLETAINERS ARE MANUFACTURED EXCLUSIVELY BY:

UNION STEEL PRODUCTS CO.

530 N. BERRIEN ST. ALBION, MICHIGAN

Manufacturing plants also in Compton, Calif. and Waterloo, Quebec, Canada

SHORTS & REMNANTS

(from page 20)

machinery attachments, devices, etc. To illustrate, I may mention a twist counter or [stop motion]."

ANIL R. BANKER
Banker Textiles
Bombay, India

Miscellaneous Wants

Names of firms making slub or imperfection detecting devices—**L. R. Taylor,** Ludlow Mfg. & Sales Co., Indianola, Miss.

List of purchasers of used textile equipment—**J. H. McDowell, Jr.,** PA, Dixie Mercerizing Co., Chattanooga, Tenn.

More information on loom tension analyzer (TI for Jan.)—**D. R. Ordoqui,** chief chemist, Industria Lanera del Uruguay, S. A., Montevideo, Uruguay.

Further information on loom attachment to save cutting Jacquard cards—**R. C. Johns,** plant manager, Kentucky Woven Label Co., Allensville, Ky.

Names of suppliers of nylon spindle tape—**H. R. Brownell,** dir., Textile & Ginning Accessories Co. Ltd., Brantford, Ont.

Data on "Strawn" straw-like rayon—**Martin Cedar,** owner, Rainbow Knitting Mills, Brooklyn, N. C.

Further information on conveyor automation—**W. R. Cole,** Model Sportswear, Inc., Shelbyville, Tenn.

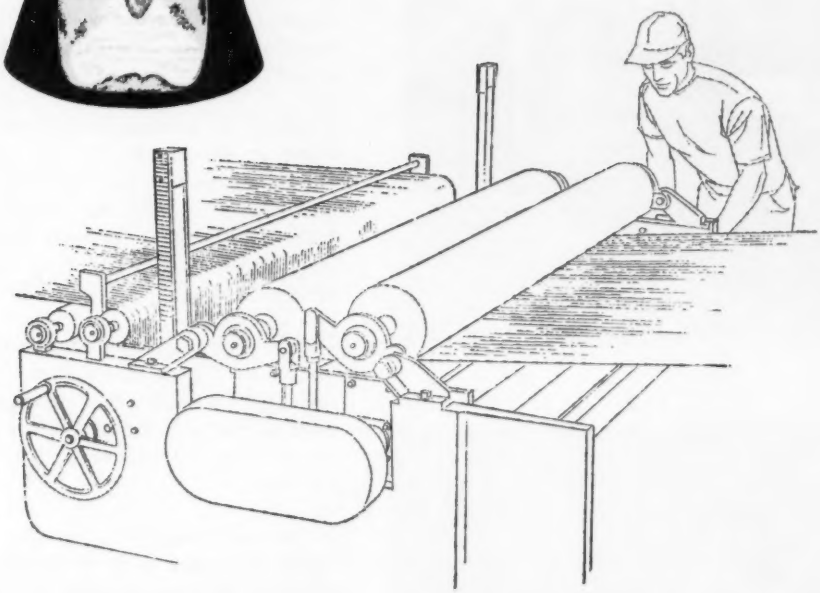
Further information on Lestoil—**Arthur Brown,** foreman, Gallin Knitting Mills, Cleveland, O.

More data on Cato cationic starch—**L. Buchmann,** mgr., Coronet Ribbon Mills, Newport News, Va.

More information on Reiner cloth-room machinery—**Arthur Karr,** v-p and gen. mgr., Laurel Plastics, Inc., Madison, Me.

More on Rando-Webber—**H. C. Jennings,** v-p, W. F. & H. C. Jennings, Inc., Philadelphia, Pa.

FROM A KERNEL OF CORN THROUGH CHEMISTRY



Kofilm

ACETYLATED STARCH DERIVATIVE

NEW STANDARD FOR SIZING

There's been a change. In warp sizing results. They're now much more uniform. Because KOFILM, a unique acetylated starch, eliminates variations in viscosity and strength. As proved in mill after mill in little more than a year.

KOFILM prolongs viscosity stability over extended periods of time. Eliminates lumping and congealing. It forms exceptional films. High in strength. Extremely flexible. Very tough. Reduces stoppages. Helps produce more uniform yarn.

KOFILM is quick and simple to prepare. It is available in a complete range of viscosities for all constructions and blends. It is also recommended for wash 'n wear finishes. Why not compare it with whatever starch product you're now using? Write for a sample and data, telling something of the use you have in mind.

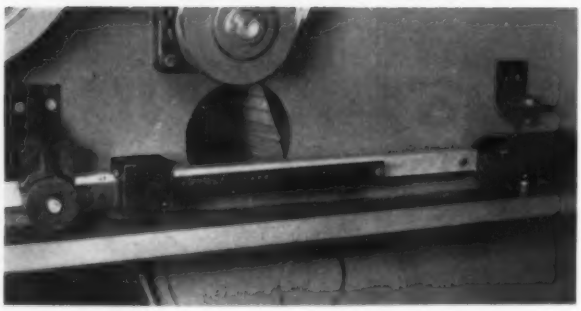
National
STARCH and CHEMICAL
CORPORATION

750 Third Avenue, New York 17
3641 So. Washtenaw Avenue, Chicago 32
311-401 Foundry Street, N.W., Atlanta 3

SET IT AND GET IT

on BLENDING SYSTEMS by

FIBER CONTROLS



IMPROVED FEATURES of Fiber Controls SYNCHROMATIC BLENDING SYSTEM make it easy to maintain constant quality, reduce waste and facilitate cost control — while maintaining an accuracy of blend of plus or minus 1%.

Hunting for proper weight on Blending equipment is eliminated by use of this precision weighing system (see bottom photo at left) and shows visually the weight being blended from each feeder. Direct check by supervisor while system is operating eliminates set-up errors. Just SET IT and GET IT.

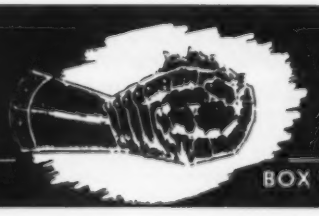
The Weight Calibrator adjusts from 4 oz to 36 oz by 1/8 oz deviations. Blend changes is reduced to calibration changes and weight is held within 2% deviation for all dumps — or an average of less than 1% deviation for a full run.

Adjustable Magnetic Vernier weighing adjustment assembly with snap-action. This patent pending feature enables any weight variation of 1/8 oz to be quickly and accurately set with the calibrator to give any desired weight. The snap-action of the magnet assembly produces quick and accurate cut-off of the weighing assembly when it receives the proper set weight, and maintains set accuracy without check or resetting.

Weighing bracket assembly is constructed of aluminum tubing for light, rigid construction — Mounted on instrument ball bearings to give unfailing movement with weight as low as 1 oz and still not transmit machine vibration into the weighing assembly — thereby maintaining accurate weight as set. SET IT and you'll GET IT with FIBER CONTROLS improved SYNCHROMATIC BLENDING SYSTEM. Has proven itself to Management, regardless of Mill size.

We invite your inquiry concerning more complete details of our Blending and Cleaning equipment.

U. S. Sales Agents: PARROTT and BALLENTINE, Inc., 3440 Augusta Road, Greenville, S. C.



FIBER CONTROLS CORPORATION

BOX 1358 *GASTONIA, NORTH CAROLINA*

Rhovyl, the synthetic staple fiber... **Good mixer:** Rhovyl is a proved blending fiber. Full range of deniers and cuts. **Comfort:** Rhovyl is more comfortable, warmer, smoother. 10 years of proved consumer acceptance. **Care-free:** Rhovyl fabrics wash easily, won't felt or shrink, dry rapidly, never need ironing. **Permanent pleats:** Rhovyl blends hold pleats. Pleating lasts through repeated launderings. **Wide color range:** Rhovyl fibers come in pure white and over 20 dope-dyed colors. Also dyes with napthols, acetates, and indigosols. **No burn:** Rhovyl is noninflammable. **Good filter:** Rhovyl® is pure polyvinyl chloride...unaffected by acids, alkalis, salts...and **only $1.18 per lb.** Rhodia Inc., 60 East 56th St., N. Y. 22, N. Y. (PLaza 3-4850)

Setting new standards in textile machine lubrication

NEW SHELL VEXILLA OILS

To assure high compatibility with today's synthetic fabrics, a completely new line of premium-quality textile machine lubricants has been developed—NEW SHELL VEXILLA OILS. These new oils are available in a wide viscosity range to satisfy all operating requirements.

Check these outstanding advantages:

1. Excellent Scourability—New Vexilla® Oils are *easily* and *readily* removed through conventional scouring procedures . . . completely eliminate oil stain problems.

2. High Oxidation Resistance—New Vexilla Oils contain special oxidation inhibitors to prevent increase of viscosity during service and storage. High viscosity index base oils minimize thinning out at high temperatures.

3. Eliminate Bearing Corrosion—New Vexilla Oils contain a newly developed rust inhibitor which keeps bearings *clean* and *free from corrosion.*

4. Non-Gummy—New Vexilla Oils contain no fixed oils such as lard, tallow and sperm oils to cause gumming. In automatic lubricating systems, they will not form harmful metallic soaps when in contact with zinc or copper.

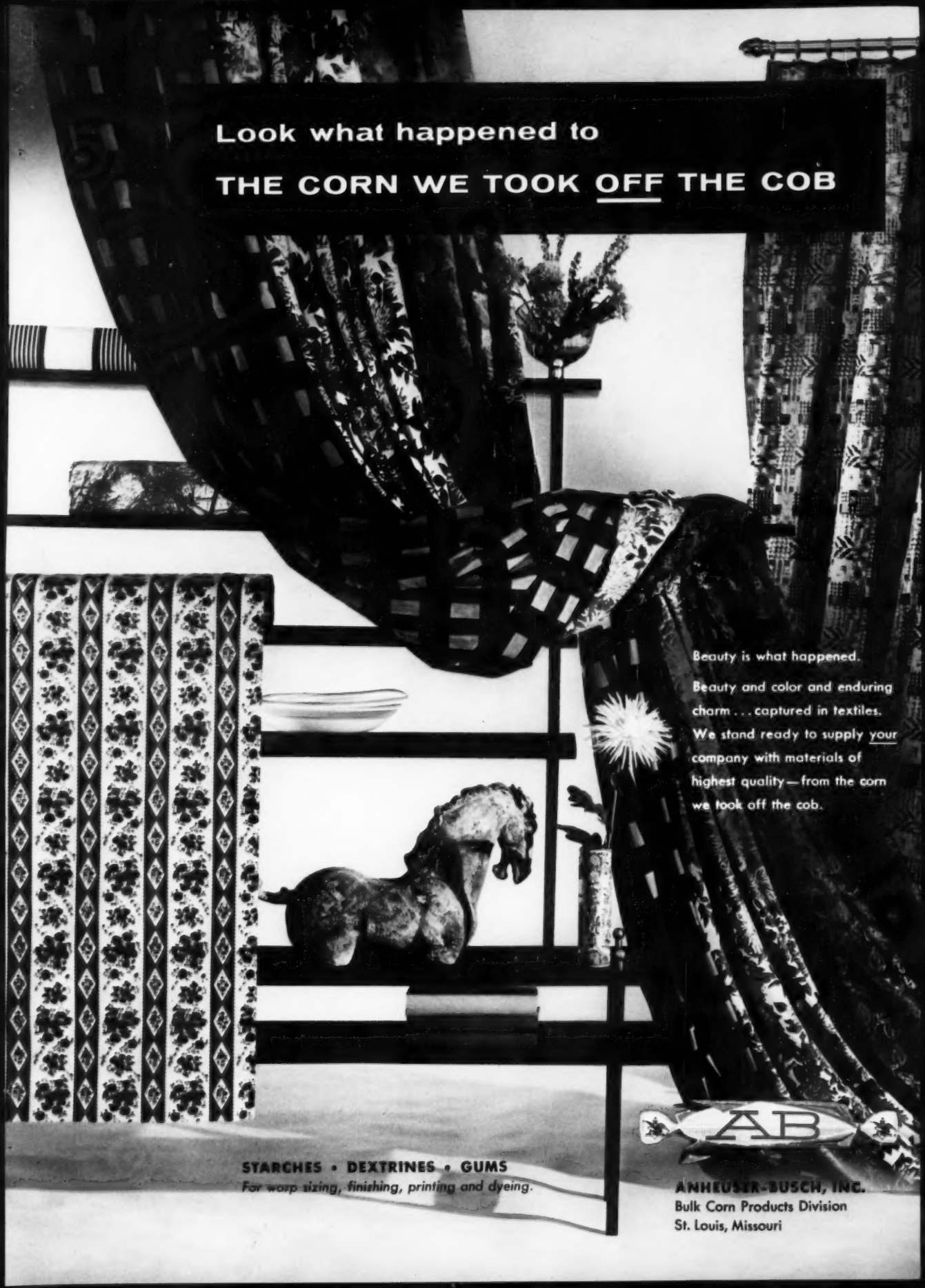
5. Outstanding Wetting Properties—New Vexilla Oils offer superior metal-wetting properties because of the carefully engineered balance of components and polar character.

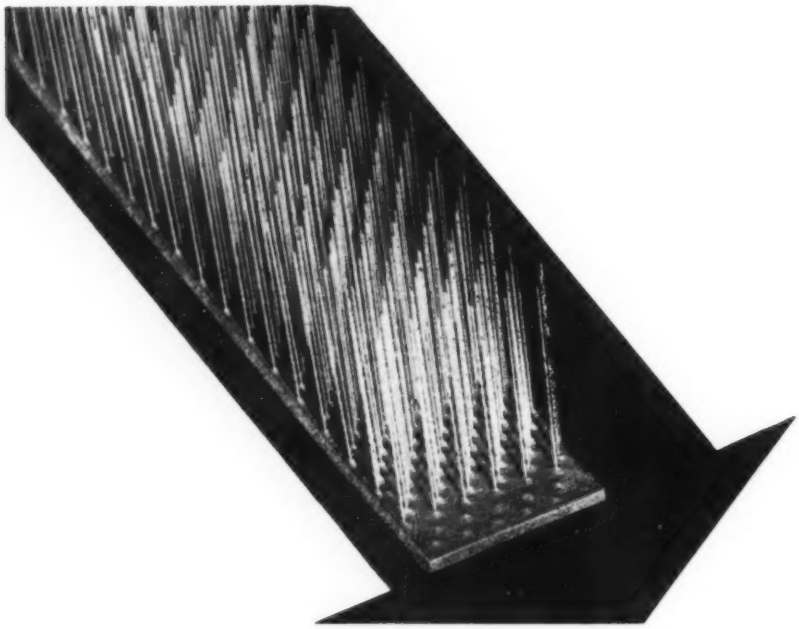
The Shell Industrial Products Salesman will be glad to show you how to reduce maintenance costs and assist in the selection of the appropriate grades for *your* plant operation. Write Shell Oil Company, 50 West 50th Street, New York 20, New York. In Canada: Shell Oil Company of Canada, Limited, 505 University Avenue, Toronto 2, Ontario.

NEW SHELL VEXILLA OILS

. . . quality textile machine lubricants

SHELL


Look what happened to
THE CORN WE TOOK OFF THE COB
Beauty is what happened.
Beauty and color and enduring charm . . . captured in textiles. We stand ready to supply your company with materials of highest quality—from the corn we took off the cob.
AB
STARCHES • DEXTRINES • GUMS
For warp sizing, finishing, printing and dyeing.
ANHEUSER-BUSCH, INC.
Bulk Corn Products Division
St. Louis, Missouri



Straight as a Ramrod Perfect in Alignment—

that's Tuffer TRADE MARK

The carefully ground teeth of Tufferized Card Clothing are set with military precision in Tuffer foundation to suit the individual job.

These tough wires stand straight and firm as a ramrod, with just the proper flexibility, and with every point in exact position. And expert grinding keeps the points efficiently sharp for a long, long time.

Tuffer precision craftsmanship produces the consistently uniform Card Clothing you want for a smooth, even sliver with minimum variation.

You're sure of maximum production with Tuffer. For special problems, a Tuffer sales engineer with access to the accumulated manufacturing experience of more than 90 years, is always available.

TUFFER PRODUCTS

- Card Clothing for Woolen, Worsted, Cotton, Asbestos and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- Lickerins rewired at Southern Plants
- Hand Stripping Cards

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.

Direct Representation in Canada

594

People who use Allied UREA make it a habit!

available in crystal and uncoated-pelleted form

BASIC TO AMERICA'S PROGRESS

Allied Chemical

NITROGEN DIVISION

Dept. U5-29-1, 40 Rector Street, New York 6, N. Y.

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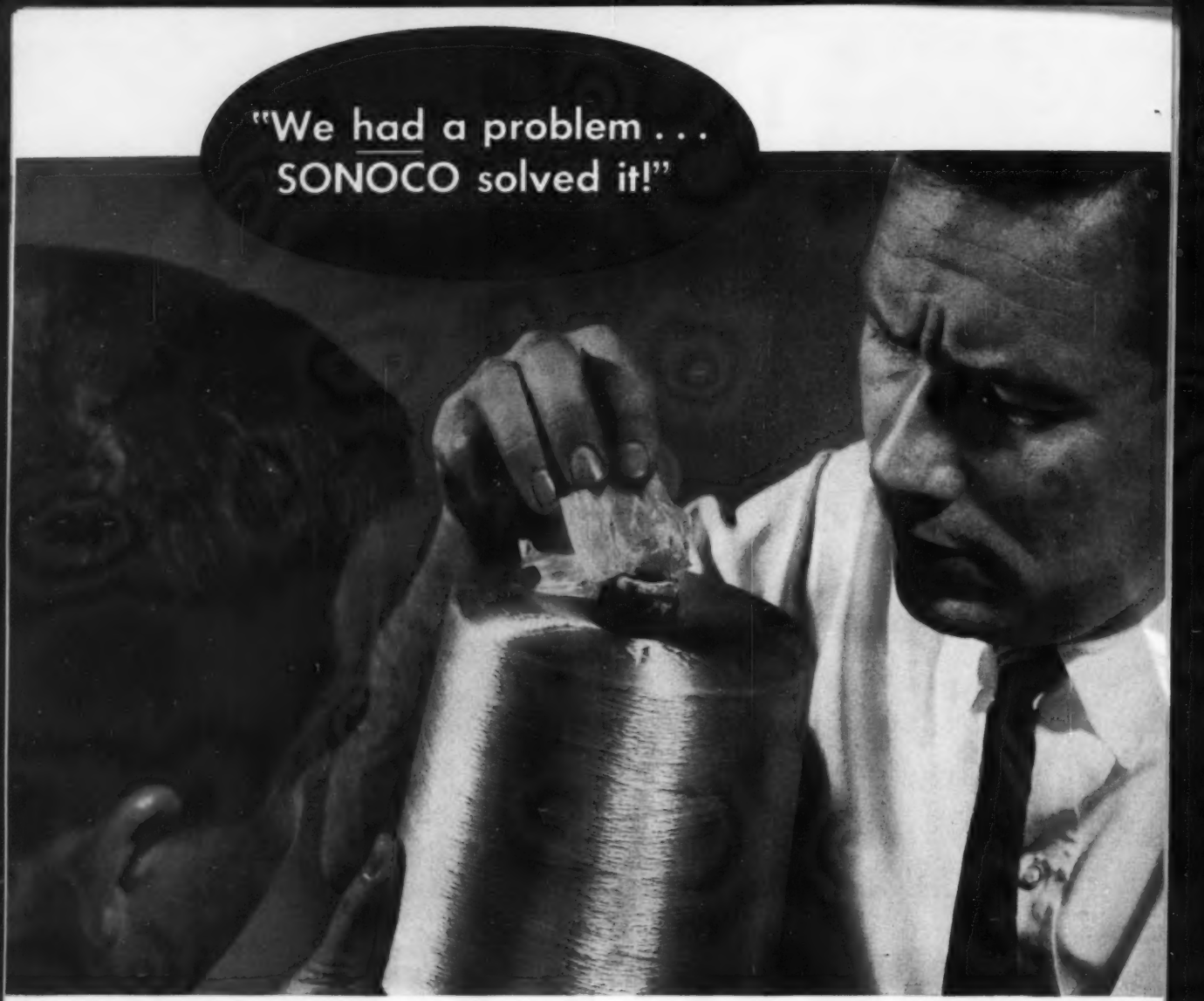

THE NEED: Special lacquers to resist coning oils

A Sonoco customer wound a quantity of yarn on lacquer-tipped cones and then stored the finished packages. During the months of storage the coning oil attacked the lacquer tip causing the lacquer to bleed on the yarn. Additionally, the cone wrap stuck to the lacquer and pieces of paper were left on the tip when the wrap was removed. These conditions caused the yarn to snag and break during the take-off.

Sonoco research chemists, because of past experience with similar problems, promptly developed a new type lacquer which will prevent a reoccurrence of this problem when the same oil is used.

Developments of this nature are "all in a day's work" at the Sonoco research laboratory. If you have similar problems, consult your Sonoco representative.

Only Sonoco, with its completely integrated manufacturing facilities and its research and development departments, is in a position to render this vital service to the textile industry. You can depend on Sonoco's 60 years' experience and leadership.

sonoco

Our 60th year
1899 - 1959

SONOCO
Products for Textiles

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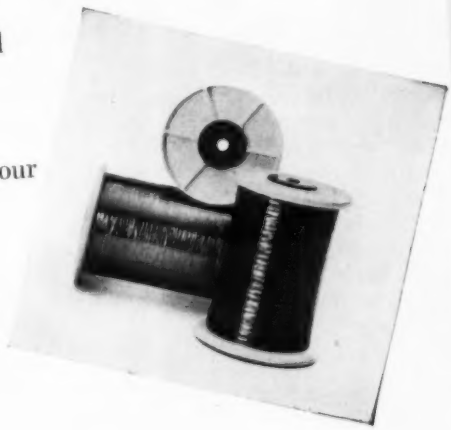
News about LUREX®

The plastic disposable spool

Made of high impact white plastic this new spool provides a more efficient mill operation, saves money and yields high quality.

The reasons:

- it protects against shipping damage.
- its high impact plastic prevents flanges from cracking off.
- it is put up with the best wind possible and preserves it by providing freer ends.



Available for your evaluation by contacting your Lurex representative.

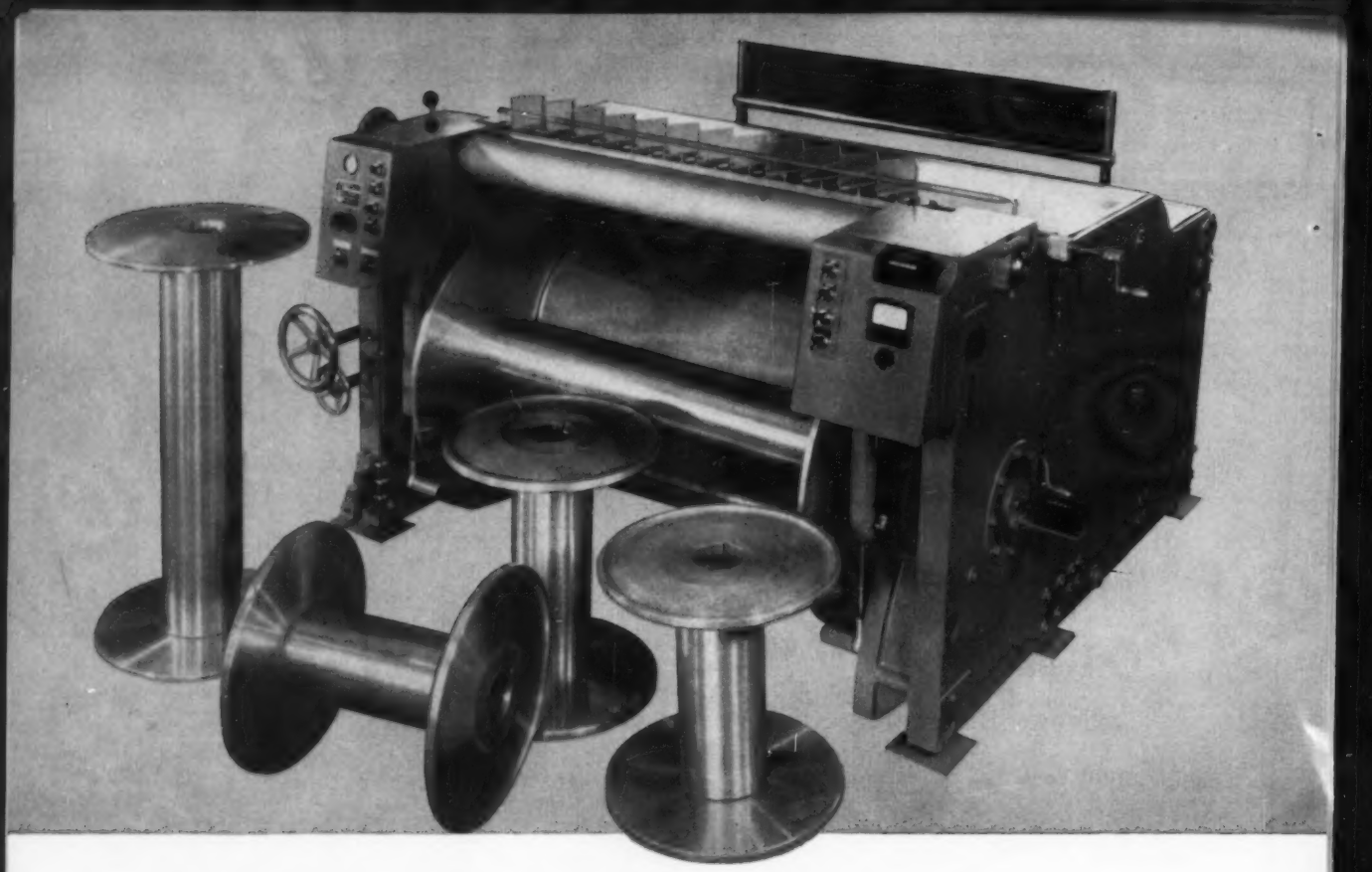
Lurex, non-tarnishing metallic yarn made only by the Textile Fibers Department

DOW

The Dow Chemical Company • *Williamsburg, Virginia* • *New York: 350 Fifth Avenue*

Boston • Camden, N. J. • Charlotte, N. C. • San Francisco

Manufacturing Affiliates in Canada: William B. Stewart & Sons, Ltd., Toronto and Montreal



Use any of these beams on this Versatile Warper

The versatile Kidde-Sipp Warper Model 149B is built to take a 50" beam, up to 32" in diameter—BUT it can quickly be converted to take a 42" beam, or even two 25's or two 21's.

If you don't need this flexibility, of course, you can get Model 149A. This warper can be furnished to accommodate either a 50" or a 42" beam.

Both models are dependable and sturdy, as are all Kidde-Sipp warpers.

Here are some other features of Kidde-Sipp Model 149 Warpers:

- Speed range is 8 to 1 (75 to 600 YPM).
- Electric brakes have independent rheostats for synchronized stops.
- Pressure roller and diversion roller are synchronized by a timing belt.
- You can choose either a fan reed or a positive expansion reed.
- Hydraulic action makes beam doffing work a girl can do single-handed.
- Beam tape attachment helps keep ends set in position.
- You get predetermined revolution and yardage counters.

The Model 149 is part of a line of dependable Kidde-Sipp Warpers. We'll be happy to supply you with detailed folders, which describe every warper we have. Write to Kidde Textile Machinery Corp., Bloomfield, N. J. Or phone Mr. Ruddick at PIlgrim 8-8100 in Bloomfield.

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

Spartan Mills leads with NEWEST in Frame Cleaning

To keep more frames cleaner than ever before, Spartan Mills is first with the newest combination for cleaning:

1 BAHNSON CROSS-JET CLEANER

- Flexible trunks for each side of frame clean creel, drafting system, and frame. Multiple air nozzles in trunks provide total frame cleaning.
- High air handling capacity with adjustable air volume for each area of frame.
- Oscillating air outlets provide 180° overhead cleaning, plus track and conductor bar cleaning.

2 BAHNSON VERT-I-RAIL TRACK

- First modern creel-mounted, single rail I-beam track offered for frame cleaners.
- Wider surface for wheel contact results in minimum track wear, maximum track life.
- Shielded conductors are open at top and bottom for easier air cleaning and maintenance.

Bahnson **AIR-O-MATION**

AIR AT WORK FOR INCREASED PROFITS

THE BAHNSON COMPANY, WINSTON-SALEM, N. C.

WARNING!

All that glitters is not Metlon!

Even though identical ingredients go into most metallic yarns... there can be a vast difference in the way metallic yarns perform. Some metallics are simply not made as well as others... and if the difference doesn't show up during manufacturing processes, it's bound to come to light during consumer use.

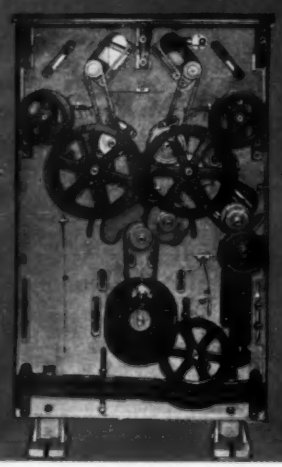
Make sure that the metallics you use will live up to their glittering promises. Specify quality-proven Metlon.

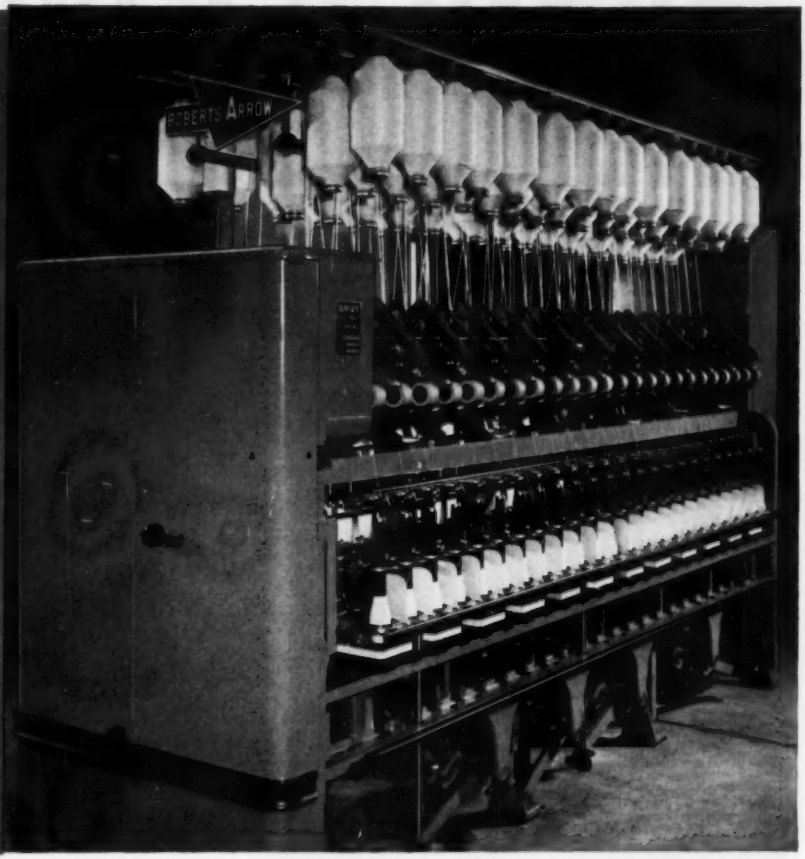
METLON® with MYLAR®
METALLIC YARNS

For samples and specific information about Metlon Metallic Yarns, write to:
METLON CORPORATION, 432 Fourth Avenue, New York 16, N.Y.
A Subsidiary of Acme Backing Corporation
*DuPont's Polyester Film

Very advanced Roberts Arrow spinning frame all ball bearing, Fafnir-equipped

ROBERTS ARROW SPINNING FRAMES are setting records for package sizes, yarn weight on bobbins, production speeds, yarn evenness and break strength. Roberts Rebuilt Frames and changeovers incorporating the very advanced features of ARROW spinning are also available for modernization programs.





FAFNIR PLYA-SEAL BALL BEARINGS, typical of the Fafnir bearings used in the cylinder mounting, head, and other turning points in the ROBERTS ARROW frame, are prelubricated and sealed against loss of grease. Slinger-type, frictionless seals protect against lint and dust while permitting high speed operation.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

In the head design alone, ROBERTS ARROW Spinning Frames incorporate 30 prelubricated and sealed Fafnir ball bearings. All plain bearings and studs are eliminated.

The head design is typical. At every key turning point, from cross shafts to jack shafts, from top rolls to cylinder mounting, Fafnir ball bearings provide smooth-working, power-saving, trouble-free performance. Wear and replacement of parts and bearing lubrication and maintenance are all but eliminated.

Widespread industry acceptance of Roberts high draft antifriction frames and frame components speaks for itself of the remarkable production capabilities engineered into this advanced-design equipment.

It's a success story that speaks, too, for the high calibre of Fafnir design engineering service...service that reflects almost half a century of experience with textile applications. Worth remembering when you have a bearing problem. The Fafnir Bearing Company, New Britain, Connecticut.

Another COCKER Exclusive*

THE NEMO JET COOKER**

Fresh Size . . . as you need it. No film . . . no lumps . . . no hard size
Eliminates batch cooking and storage kettles
Saves on materials

The Nemo Jet Cooker will reduce your costs and will improve your weaving efficiency by producing more uniform size. The Nemo Jet Cooker assures you of a constant supply of fresh size . . . cooked when you want it . . . and piped immediately to the size box. This eliminates evaporation, surface film, lumps and hardened size.

The use of the Nemo Jet Cooker results in 100% breakdown of cold slurry, thus saving on raw materials. It also eliminates the dumping of unused finished size and the stream pollution which this often causes.

LET US SEND YOU FULL INFORMATION

[*Cocker Machine & Foundry Co. has acquired exclusive manufacturing and sales rights on this equipment.]

**Pat. Applied For

COCKER MACHINE & FOUNDRY COMPANY

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Montreal, Canada
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at Ranlo, N. C.
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WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

". . . . boss told him to quit watching the clock . . . ."

Working overtime has its merits.

But if you're working overtime because of a technical problem in slashing or wet processing, we suggest that you—

—send the problem to us, and go home on time.

We'll do your overtime for you.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

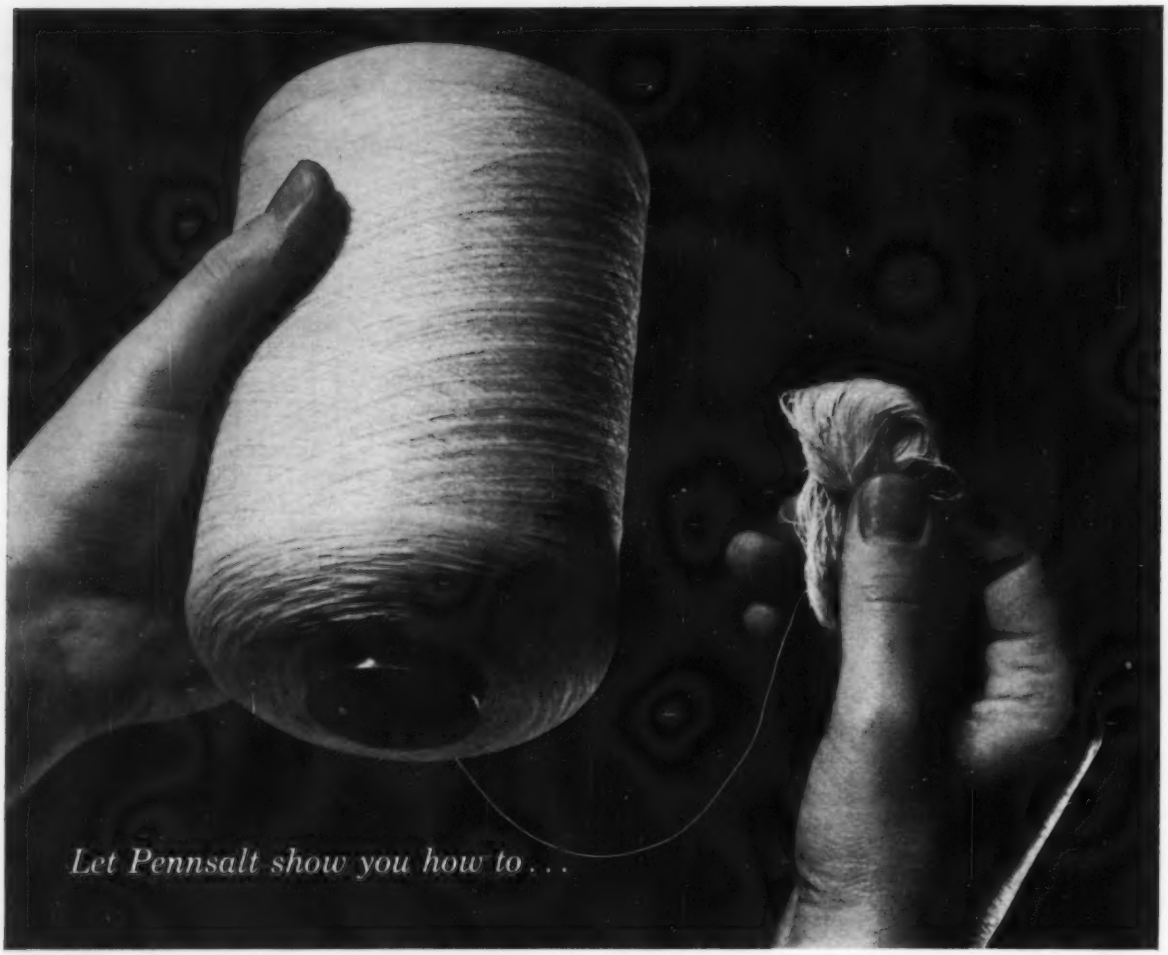
Seyco Warp Lubricator.

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

748 RICE STREET, ATLANTA, GEORGIA

SEYCO



REDUCE COSTS and IMPROVE QUALITY

in your textile finishing operations

Personalized technical service tailored to your needs . . . plus quality chemicals . . . can mean substantial savings in processing and improved quality in your finished goods. Call on PENNSALT for TEXTILE FINISHING SERVICE if you:

- require softer yarn in package or warp bleaching
- have trouble neutralizing alkali in scoured or bleached goods
- have a silicate problem in cold or steam bleaching

An experienced representative will study your process from greige goods to finished product and provide you with reliable solutions to these and other textile finishing problems.

insist on PENNSALT QUALITY CHEMICALS when you buy

caustic soda hydrogen peroxide
chlorine ammonium chloride
surfactants ferric chloride

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INDUSTRIAL CHEMICALS DIVISION

PENNSALT CHEMICALS CORPORATION

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Chicago • Detroit • New York • Philadelphia • Pittsburgh • St. Louis • Appleton • Atlanta
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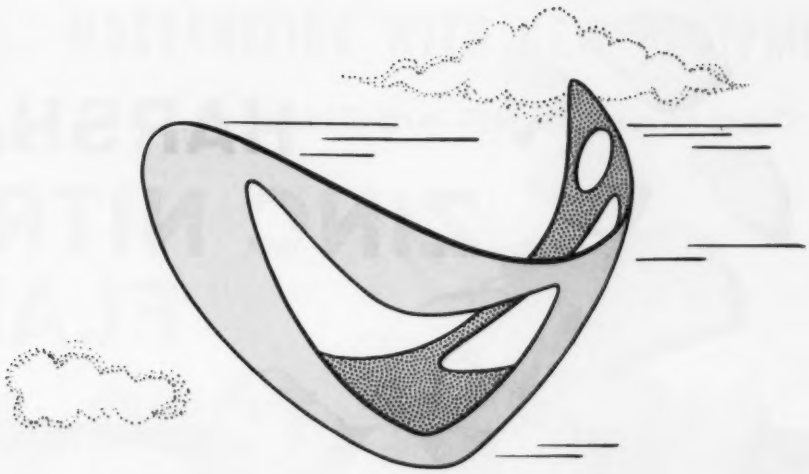
Pennsalt of Washington Division: Tacoma, Washington • Portland, Oregon

Pennsalt Chemicals
ESTABLISHED 1850



Butterworth adds a new dimension

Field-Service Engineering

In the South: Industrial Heat Engineering Co.
121 Cleveland St., Greenville, South Carolina
Telephone: Cedar 9-8474

In the North: United States Supply Co., Inc.
888 Broadway, E. Providence, Rhode Island
Telephone: Geneva 4-4247

Now there's a new dimension back of Butterworth Machines for the wet end of textile finishing. It's the service of experienced sales-engineering organizations calling regularly on your mill.

Whether you want a spare part in a hurry, a new machine to increase production, or a complete dyeing, bleaching, or finishing range, there's a Butterworth man within easy call. And he is backed up by good engineering service from the home office, and a pricing policy that will give you a Butterworth-engineered installation at competitive cost.

VN

BUTTERWORTH

Division of VAN NORMAN Industries, Inc.

H. W. BUTTERWORTH & SONS CO. • Bethayres, Pa. • Since 1820

HARSHAW ZINC NITRATE FLAKE

Harshaw Zinc Nitrate Flake is especially suited for polymerizing resins currently being used for wrinkle-free and wash-and-wear fabrics.

Harshaw Zinc Nitrate Flake is produced under rigid control assuring the user of uniform resin catalysis at all times.

Harshaw Zinc Nitrate Flake measures about 3/32" thick by 1/2" long, thereby reducing dust and fines to absolute minumum.

Packed in 300 or 100 pound Leverpak drums with polyethylene liner, Harshaw Zinc Nitrate Flake is available for immediate shipment. Write for samples and prices.

TYPICAL AVERAGE ANALYSIS:	
Assay as $Zn(NO_3)_2$	72.5%
Zn	24.6%
Fe	0.001%
Pb	0.003%
pH of 5% solution	5.2
Insol. in 1% Nitric Acid Solution	0.001%

THE HARSHAW CHEMICAL CO.
1945 E. 97th Street, Cleveland 6, Ohio

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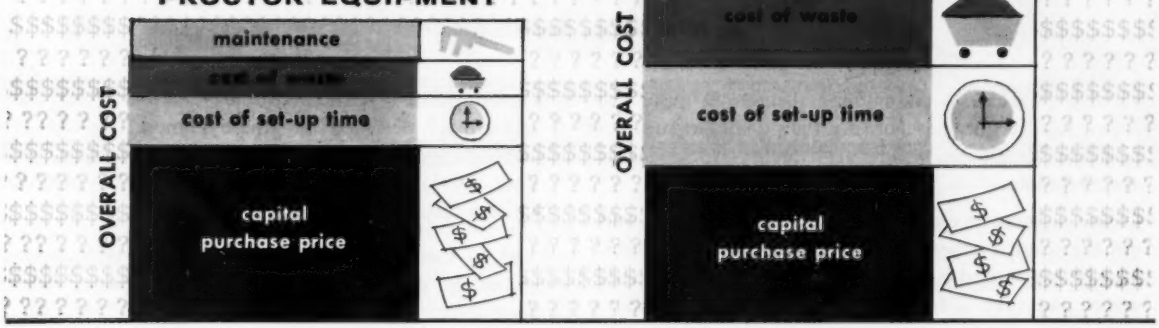
MODERNIZING WITH NEW EQUIPMENT?

what will the REAL cost be?

REAL COST =

CAPITAL COST
+
INSTALLATION COST
+
AVOIDABLE WASTE
+
MAINTENANCE
+
DELAYED PRODUCTION

The purchase price can be the least of these over the years you will operate the equipment. PROCTOR users agree that the comparison of *real costs* often looks like this . . .



PROCTOR PROFIT MAKING EQUIPMENT FOR THE TEXTILE INDUSTRY

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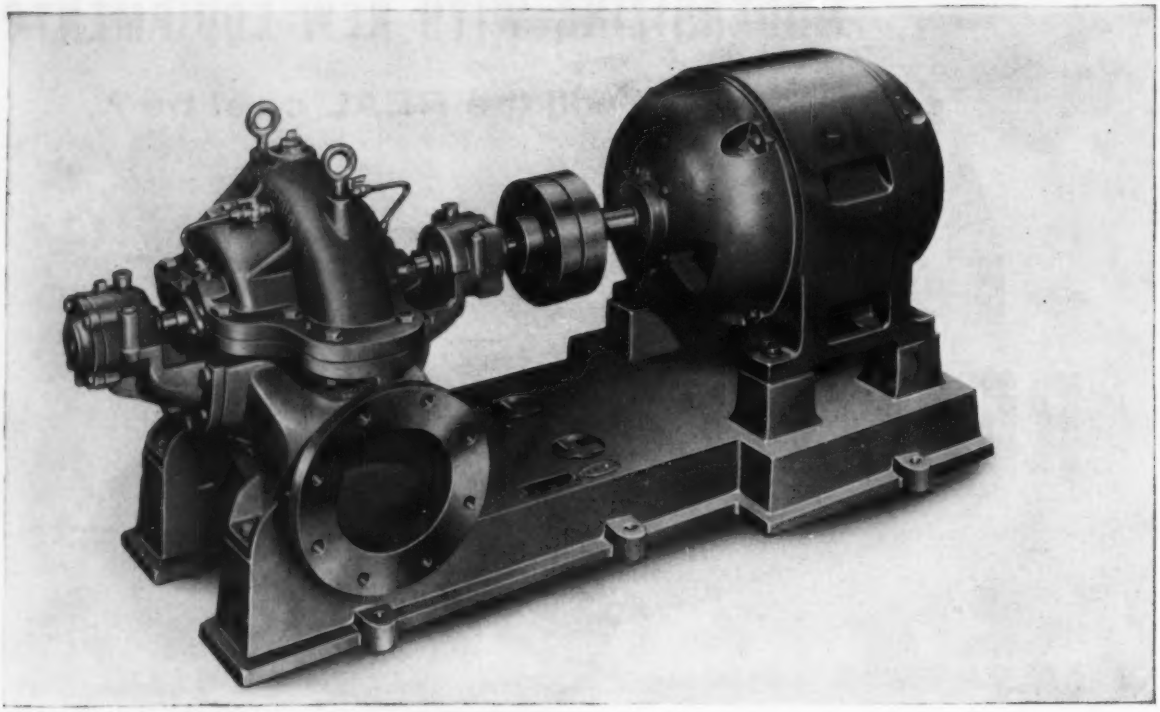
Write for bulletin #443.

Proctor & Schwartz will be happy to show you how buying Proctor equipment will cost you less.

Proctor®

PROCTOR & SCHWARTZ, INC.
PHILADELPHIA 20, PA.



"Buffalo" Double Suction Pump for Clear Water Service

3-WAY ECONOMY
WITH THESE "BUFFALO" PUMPS

1. Minimum Maintenance Cost **2. Minimum of Costly Time-Outs**
3. Minimum Service Costs

"Buffalo" Double Suction Pumps bring you these and many more economies because they combine superior hydraulic design with the finest quality workmanship and materials.

Lower maintenance cost and fewer expensive time-outs are the result of these "Buffalo" construction features: sturdy, machined casing with ample, simply-formed water passages — hydraulically balanced impellers assuring peak efficiency — renewable bronze wearing rings — heavy-duty ball bearings and shaft is high grade steel, machined all over, bronze covered, or solid monel metal or other alloy.

Lowest possible service costs are assured by the extra accessibility designed into these pumps. Horizontally-divided casing permits quick removal of the upper half. Thus interior parts can easily be inspected or removed without disturbing pipe connections.

Add to these economies peak efficiency and dependability and you have a pump that is unsurpassed for the most severe industrial clear water service.

For full information on the "Buffalo" Double Suction Pump, contact your nearby "Buffalo" engineering representative. Or write for Bulletin 955-S.

"Buffalo" PUMPS

BUFFALO PUMPS
Division of Buffalo Forge Co.
175 MORTIMER STREET • BUFFALO, N. Y.

Canada Pumps, Ltd., Kitchener, Ont. • Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUI

ALSIMAG® 183

ELECTRICALLY CONDUCTIVE THREAD GUIDES

(U. S. Patent No. 2,369,266)

Parts shown approximately actual size.

These hard, homogeneous guides are recommended by leading producers of synthetic yarns and by leading manufacturers of textile machinery. They help control static electricity and produce better quality yarn. Stock designs available for most equipment. Custom made at reasonable cost for special requirements.

These conductive ceramic guides are available in either satin or bright finish. Rods and tubes can be supplied in controlled finishes in a normal range of 5 to 70 micro-inches r.m.s. Other special finishes can be supplied when required. Finish specification sheet sent on request.

Samples available on standard designs. Experimental designs made promptly and at reasonable cost. Send prints or description.

A Subsidiary of Minnesota Mining and Manufacturing Company

AMERICAN LAVA CORPORATION

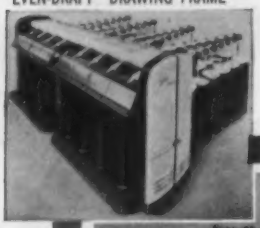
CHATTANOOGA 5, TENN.

58TH YEAR OF CERAMIC LEADERSHIP

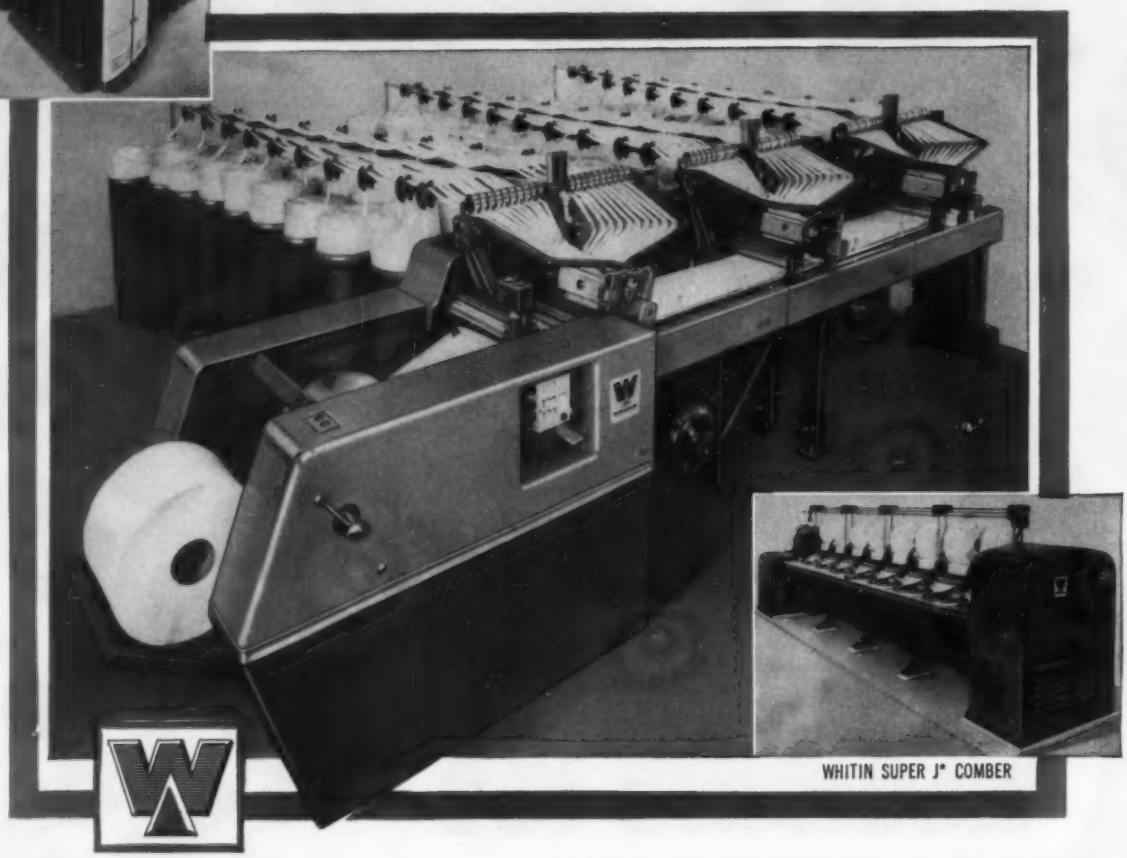
SALES ENGINEERS: NEW ENGLAND: W. J. Geary, 27 Fairlawn St., Cranston, R. I., Williams 1-4177. NORTHEAST: J. S. Gosnell, 205 Walnut St., Livingston, N. J., 6-1260. SOUTHEAST: James W. Crisp, 409 Buncombe St., Apt. 1, Greenville, S. C., Cedar 9-8520. ALL OTHER AREAS: J. B. Shackett, W. M. Crittenden, Jr. or W. H. Cooper, American Lava Corp., Chattanooga 5, Tenn., Amherst 5-3411. **REPRESENTATIVES:** CANADA: Ian M. Haldane & Co., P. O. Box 54, London, Ont. ALL OTHER COUNTRIES: Minnesota Mining & Mfg. Co., International Div., 99 Park Ave., New York, N. Y.

The WHITIN SUPER J's New Running Mate-

WHITIN
EVEN-DRAFT* DRAWING FRAME



the SUPER LAP machine



WHITIN SUPER J* COMBER

The new Whitin Super Lap machine heralds a major advance in cotton processing. Running-mate to the famous Super J Comber, the Super Lap and the new Whitin Super Lap Preparation Method* hold promise of material savings in the making of combed yarns thru improving yarn quality, increasing Comber production and reducing Comber waste.

The Super Lap was specifically designed by Whitin Research engineers to implement a new concept in preparing Comber laps — the Whitin Super Lap Preparation Method — in which card sliver is first processed on the Even-Draft Drawing and then formed into laps by the Super Lap. This sequence of operations results in the superior lap in which all hooked and bent fibers have been straightened and made parallel — then on to the Super J Comber.

*(Pat. applied for)

Through this new method Whitin offers you these competitive advantages:

- **Lap production 500 lbs./hr. — 35 lb. laps from 60-end can feed.**
- **Up to 3% reduction in noils.**
- **Lap weights up to 1000 gr./yd. permit increased Comber production. (20-25%).**
- **Straightened and parallel fibers in lap afford easier combing.**
- **Recommended total draft 24-32.**
- **Improved yarn quality.**

For complete information see Whitin representative or write us direct.

WHITIN MACHINE WORKS

*TRADE MARK

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Staley's Presents:

Weavers Through The Ages

West Indies . . . 1492

Here, Columbus overlooked a treasure far more valuable than the rare spices, jewels and gold he was seeking.

In 1492, when Columbus landed in the West Indies, the natives brought skeins of cotton thread for use in bartering with the invaders. To a company interested only in gold, pearls, and rare spices, cotton must have seemed worthy only of contempt. In the years to come, however, cotton became recognized as King Cotton—a far greater source of wealth than the exotic wares which Columbus had expected to find.

Throughout the centuries, King Cotton has played an important role in the social and economic progress of mankind. A progress that almost daily brings forth some new achievement which was only a dream a few short years ago.

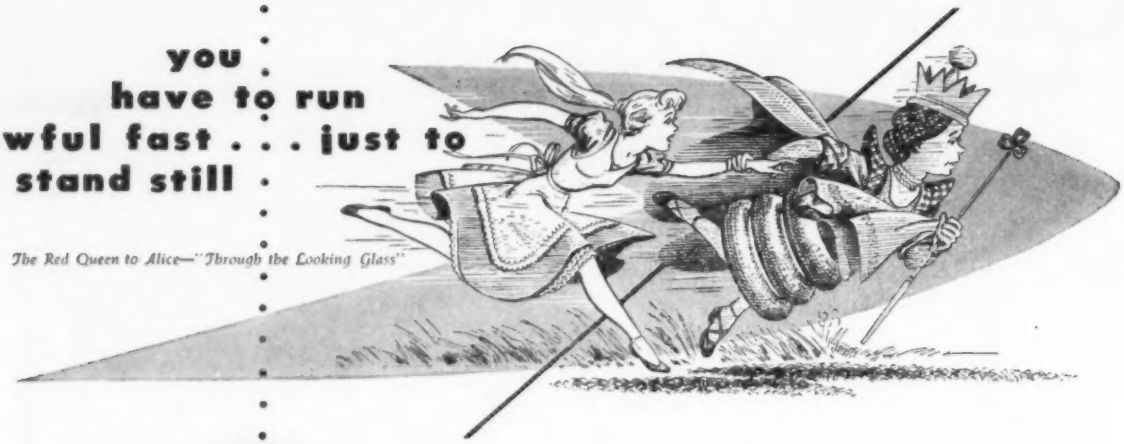
At Staley, we view this tradition of progress, this continuing improvement as a prime responsibility.

That's why textile men everywhere know they can depend on Staley for the highest-quality starches, gums and dextrins. From research to product development, to sales and technical service the men at Staley are ever working to help textile men everywhere keep ahead in *their* march of progress with the latest, most profitable developments for their sizing, printing and finishing needs. May we help in your progress too?

A. E. Staley Mfg. Co., Decatur, Illinois

Branch Offices: Atlanta · Boston · Chicago · Cleveland
Kansas City · New York · Philadelphia · San Francisco · St. Louis

you have to run awful fast . . . just to stand still



The Red Queen to Alice—"Through the Looking Glass"

COMPETITIVE BUSINESS demands fast delivery, top quality, smart pricing . . . a market in which you have to run awful fast just to stand still.

In many mills, all the preliminary work required to produce a piece of goods has to go through final finishing and inspection. Much of this work is done on modern machines, but because the finishing department is a necessary expense . . . small, dollar-wise, compared to spin-weave departments . . . machines for finishing and methods of inspecting are still antiquated.

Take a look at your finishing program. Perhaps here you can really make a wise investment in machinery which can save on costly labor and produce better finished goods.

Just remember — it's how *you* finish that counts. A modern cloth finishing room can make it possible for you to run fast enough to win with a more profitable margin.

MANUFACTURERS OF A COMPLETE LINE OF DRY FINISHING MACHINERY

CURTIS & MARBLE MACHINE CO.

72 CAMBRIDGE STREET • WORCESTER 3, MASSACHUSETTS

ESTABLISHED 1831

SOUTHERN SALES & SERVICE • LAURENS ROAD • GREENVILLE, SOUTH CAROLINA

Two ways to make a maintenance budget look bigger

The Texaco Simplified Lubrication Plan is a practical way to make a small maintenance budget look big—and *act* big. That's because it cuts the cost of lubrication, while it helps you add to the efficiency of mill operation. Here's how:

1) You eliminate inventory and storage problems because the Texaco Simplified Lubrication Plan uses a minimum number of lubricants—perhaps only six to eight—for *all* your major equipment.

2) You spend less time in lubricating equipment because the small number of lubricants reduces the possibility of confusion among your lubrication crews.

3) You often increase output by cutting machine downtime and goods spoilage, because you avoid the dangers of misapplication.

What's more, the Texaco Lubrication Engineer who prepares your plan will gladly discuss possible ways to cut costs through worthwhile plant modernization. He can point out the pros and cons of centralized lubrication systems for your equipment. He can discuss whether anti-friction bearings will do a more efficient, longer-lasting job for you. He'll even suggest areas where lubricant consumption can be reduced, and money saved.

Get in touch with your local Texaco Lubrication Engineer, and take advantage of his understanding of mill lubrication problems. Just call the nearest of more than 2,300 Texaco Distributing Plants, or write:

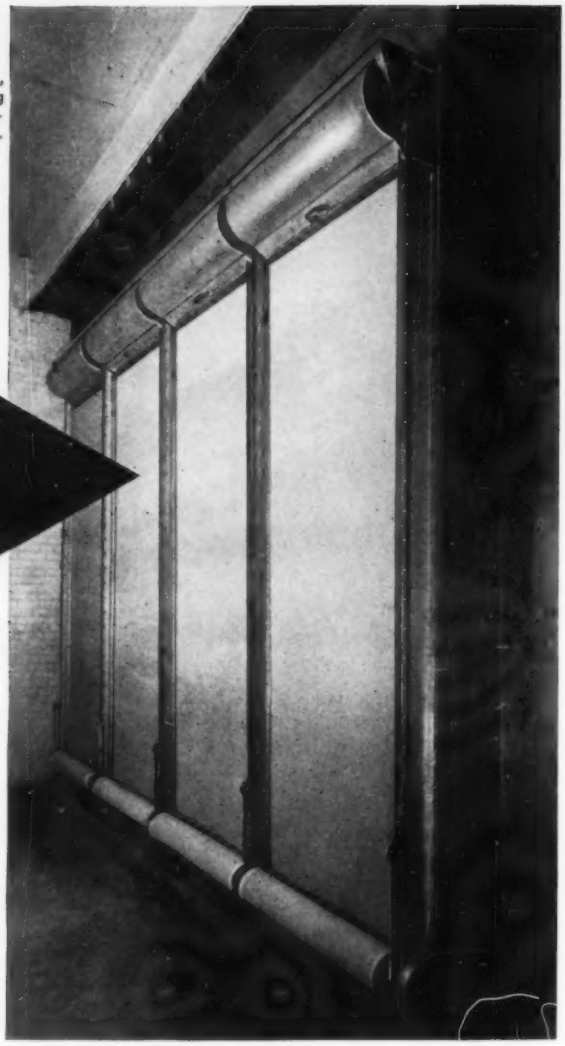
Texaco Inc., 135 East 42nd Street, New York 17, N. Y.

CONSTANT PROGRESS IN OIL'S FIRST CENTURY

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)

Auto-AIRMAT installation at Riverdale Mills, Enoree, South Carolina. Air conditioning system designed and installed by Buensod-Stacey, Inc., Charlotte, North Carolina.



CURTAIN GOING DOWN ...ON LINT!

AAF Auto-AIRMAT filters end lint problems for Riverdale Mills

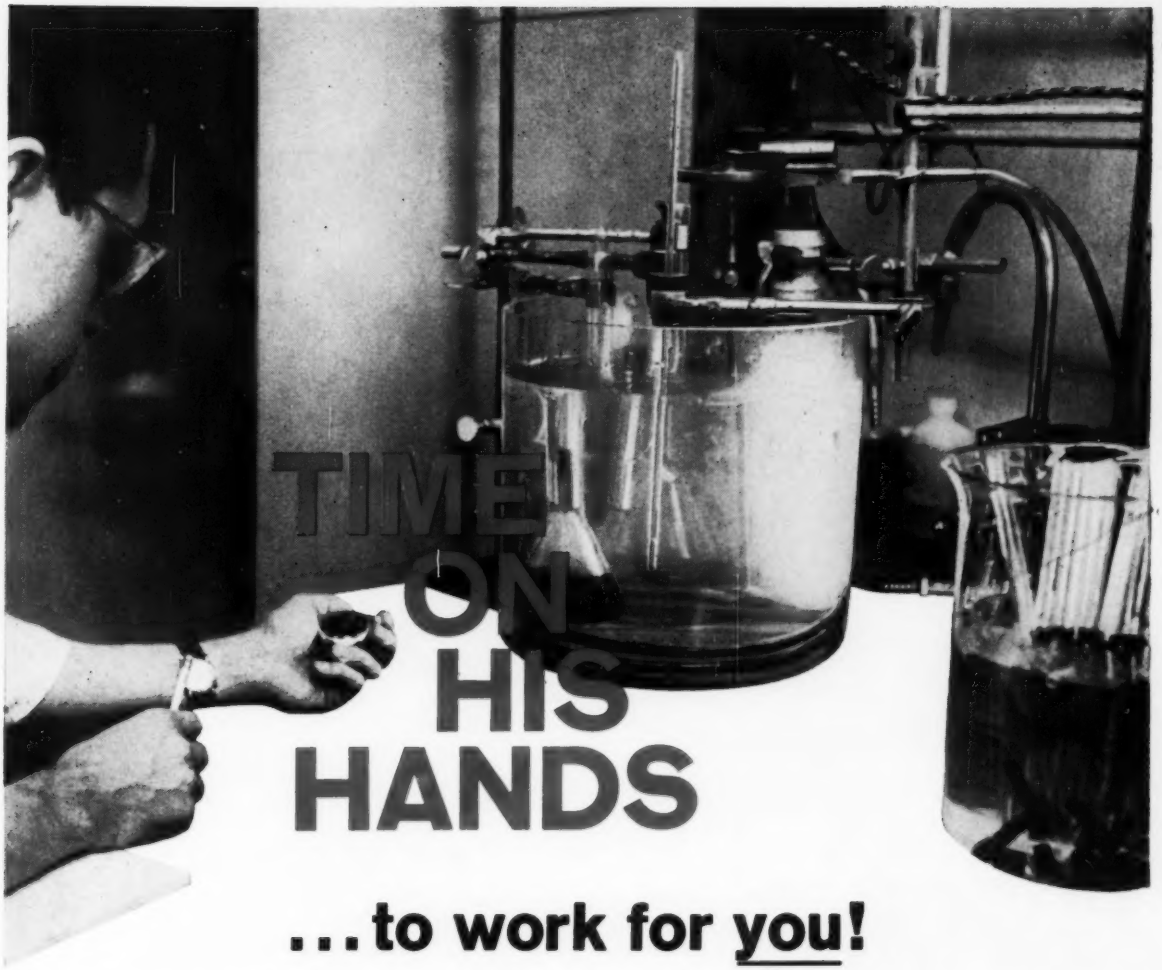
Lint—the relentless enemy of textile operations—doesn't have a chance to do its dirty work at Riverdale Mills, Enoree, S. C. Auto-AIRMAT filters on eight air conditioning systems (totaling 569,365 cfm) keep lint safely behind the "paper curtain".

The Auto-AIRMAT is the *only* filter designed specifically for lint. Airmat filtering material, unwinding from roll at top of unit, moves automatically down the face of the filter, collecting lint all the way—rewinds into easily-disposable roll at bottom.

If you've got a lint problem, investigate the *lint filter*—AAF's automatically renewing Auto-AIRMAT. Call your local AAF representative, or write direct for Bulletin 234. Address Mr. Robert Moore, American Air Filter Company, Inc., 275 Central Avenue, Louisville, Kentucky.

AAF **American Air Filter**

BETTER AIR IS OUR BUSINESS



...to work for you!

This laboratory specialist in the Textile Section of SOLVAY Technical Service, working with an industry-experienced field staff, stands ready to give individual help to textile men like yourself.

For example, the SOLVAY Activated Hydrogen Peroxide Bleaching Process was developed by Technical Service to meet an industry need for an improved cotton bleaching method. With it, you can save up to *50%* in bleaching chemical costs, and can equal or *surpass* your present whiteness!

For data on this process or technical aid in applying any SOLVAY® product listed here, mail the coupon.

PHOTO: This SOLVAY technician is measuring fluidities of a customer's cotton samples.

SOLVAY Chemicals for the Textile Industry

Caustic Soda · Chlorine · Hydrogen Peroxide · Sodium Nitrite
Mutual® Chromium Chemicals · Potassium Carbonate · Soda Ash

Allied Chemical

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N.Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

SOLVAY PROCESS DIVISION
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EN-89

Please send without cost:

- ☐ Brochure on SOLVAY Activated Hydrogen Peroxide Process
- ☐ Call to discuss technical problem outlined in attached letter.

Name_____
Position_____
Company_____
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Address_____
City_____ Zone____ State_____

A SKILLED HAND IN CHEMISTRY . . . AT WORK FOR YOU

NOPCO® 9092

. . . a new fulling and scouring surfactant that slashes detergent costs and scouring time

A new detergent from Nopco, 9092, offers textile manufacturers specific advantages for fulling and scouring operations:

1. Excellent Money Value . . . eliminates the need for adding additional detergent in the washer.

2. Excellent Rinsability . . . it rinses from the fabric easily, reducing the number of rinses required.

3. Ideally suited for continuous washing.

For further information write or call our Textile Technical Service Department

NOPCO®

NOPCO CHEMICAL COMPANY

60 Park Place, Newark, N.J.

Plants: Harrison, N.J. • Richmond, Calif. • Cedartown, Ga. • London, Canada

for real

HIGH PRODUCTION

at LOWEST productive cost

the WHITIN model M wool card

Mill after mill is setting new production records, using the new Whitin Model M Woolen Card. Available in 84", 72" and 60" widths, their many new features provide high quality roving and maximum efficiency, with lowest operating and maintenance costs.

For every type mill — men's wear, women's wear, rug or blanket mill, — there is a Whitin card designed to make maximum profits for you.

- New Tape Condenser — up to 192 ends on 84" width
- Variable speed Fancy Drive
- ATF Variable speed and V-belt drive for Int. Feed Table
- V-belt drives for strippers, breast, doffer, fancy and condenser
- Antifriction bearings throughout
- PIV Drive for Breaker Feed Rolls and Condenser also available

WHITIN machine works

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME

#4 in a series reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

Answers to the questions, "Why?", "What made it work?", or even "How come?" are essential ingredients in the telling of any success story.

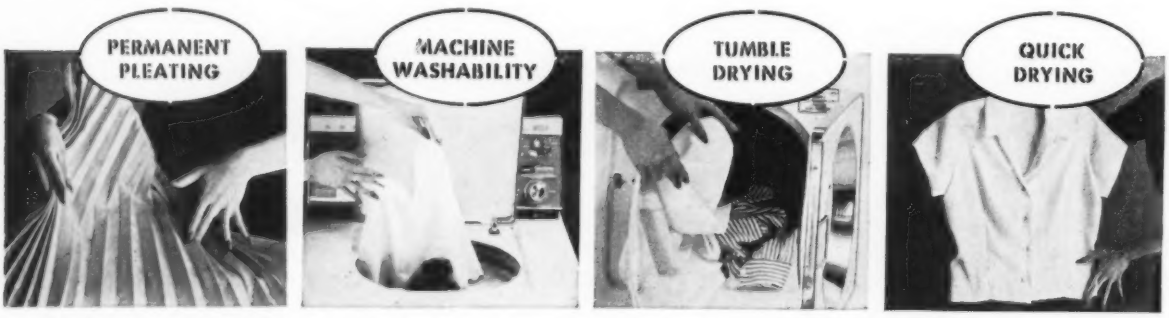
Arnel is a success story. This triacetate fiber is known in the industry for its processing and styling flexibility—its economic advantages.

But there's still another side to this success story. The consumer's. Their "stamps" of approval give real meaning to the Arnel story. For instance, consider WRINKLE RESISTANCE.

1. While Arnel fabrics are initially attractive to the consumer for beauty and styling, it's the ease-of-care characteristics such as wrinkle resistance that complete the sale.
2. Properly constructed fabrics made of Arnel are extremely resistant to wrinkling and mussing, even under conditions of highest humidity.
3. This high resistance is due to the fiber's intrinsic properties, including low moisture retention (absorbing only 3.2% moisture under normal conditions) and excellent resilience.
4. This resistance is *not* at the expense of other characteristics. Fabrics of Arnel have a desirable hand plus eye-appealing beauty and drapability.
5. Fabrics carrying the official Arnel symbol have been pre-tested for performance claimed—including wrinkle resistance. (Tests are conducted free of charge by the Celanese Corporation of America.)

So take advantage of the great consumer acceptance of Arnel. Let Celanese work with you to develop new Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Corporation of America, Box 1414, Charlotte, N. C. Celanese® Arnel®

District Sales Offices: 180 Madison Ave., New York 16, N. Y.; Room 10-141 Merchandise Mart, Chicago 54, Ill.; Western Merchandise Mart, Room 478, San Francisco, Calif.; P. O. Box 1414, Charlotte 1, N. C.; 200 Boylston St., Chestnut Hill 67, Mass.; 3179 Maple Drive N. E., Atlanta 5, Ga.
Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.
In Canada: Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec



Arnel . . . a

ARNEL*

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber

High Purity
Uniform Purity
Dependable Deliveries
Helpful Technical Service...
have made STAUFFER'S reputation
in the Textile Industry

STAUFFER'S CARBON DISULFIDE

exceeds 99.99% purity. Stauffer was the first—is still the largest—domestic producer of this essential chemical.

STAUFFER'S SODIUM SULFHYDRATE

(Sodium Hydrosulfide) is shipped in lined cars in aqueous solution of highest purity, 45% NaHS, suspended iron under 5 ppm. Cost is less per unit of 100%-active NaHS. The liquid is much easier to handle than the flake and pH is more accurately controlled. Send for new Technical Bulletin.

STAUFFER'S CAUSTIC SODA

is available in 50% and 73% liquid Rayon grade. New brochure, 30 pages with many graphs and tables will be sent on request.

STAUFFER'S SULFURIC ACID

is tailor-made for your process—**to a tenth of one percent**—in strengths from 77.67% to 100%; also as Oleum of 15% free SO_3 to 100% liquid SO_3. Shipments from many points in the South, Midwest and West.

Ask for Technical Service if we can be of help to you. Stauffer's technical experts are skilled and experienced in every aspect of making and using these textile chemicals.

STAUFFER CHEMICAL COMPANY

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2350 Palmour Drive, N. E.,
Atlanta 5, Georgia

E7

Comber

The Comber E 7
a profitable investment

The Rieter Comber E 7, a completely new design of striking simplicity, is not only performing the classical combing operation in matchless manner, but also meets the highly increased demands of tomorrow, such as:

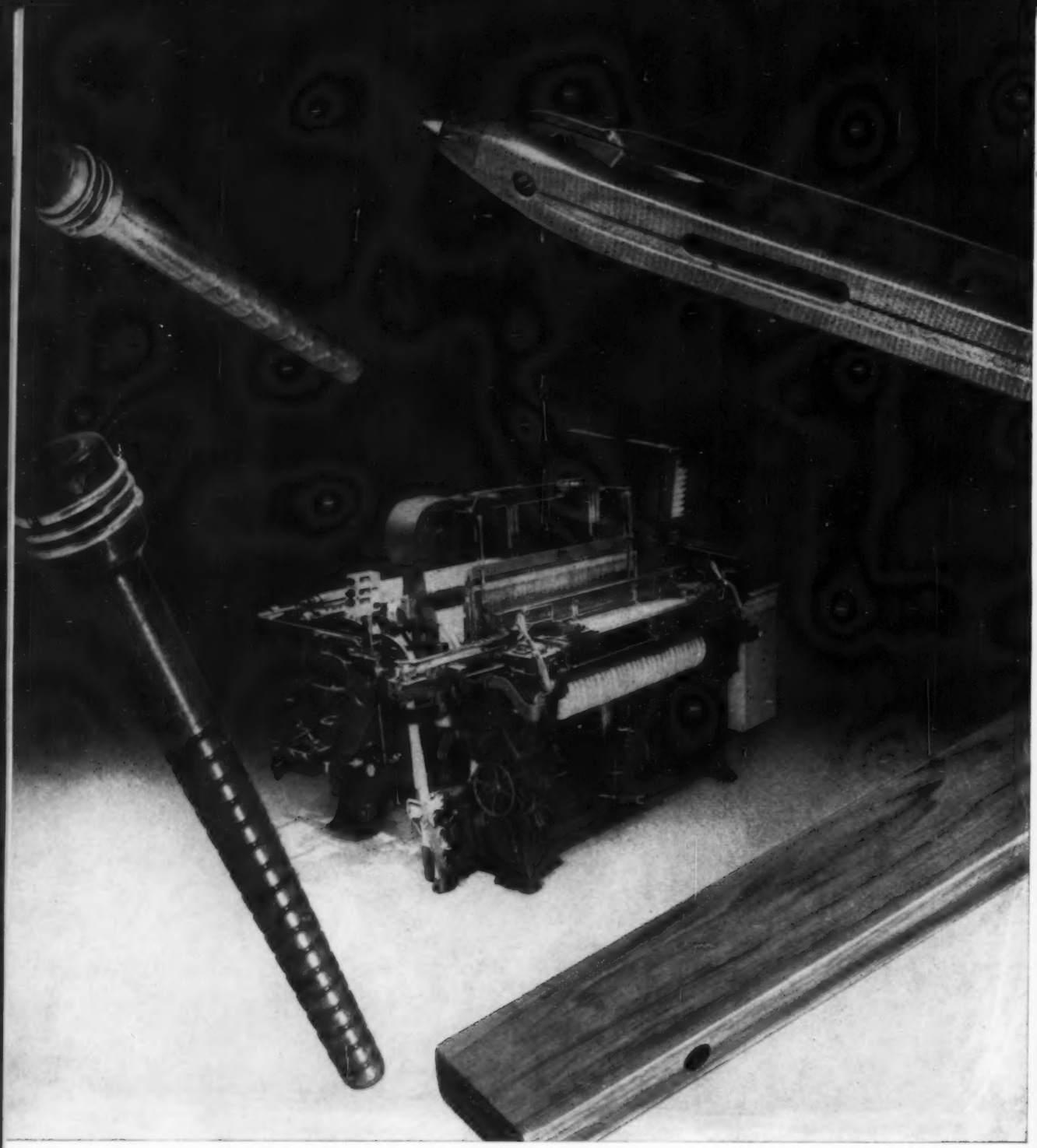
higher production
better sliver quality
simplified adjustment
easier to service and operate
higher efficiency
lower production costs
longer life with lower maintenance costs
wider range of application with higher flexibility

The Comber E 7 improves the productivity and efficiency of a spinning mill, thereby strengthening the mill's competitive standing and efficiency considerably

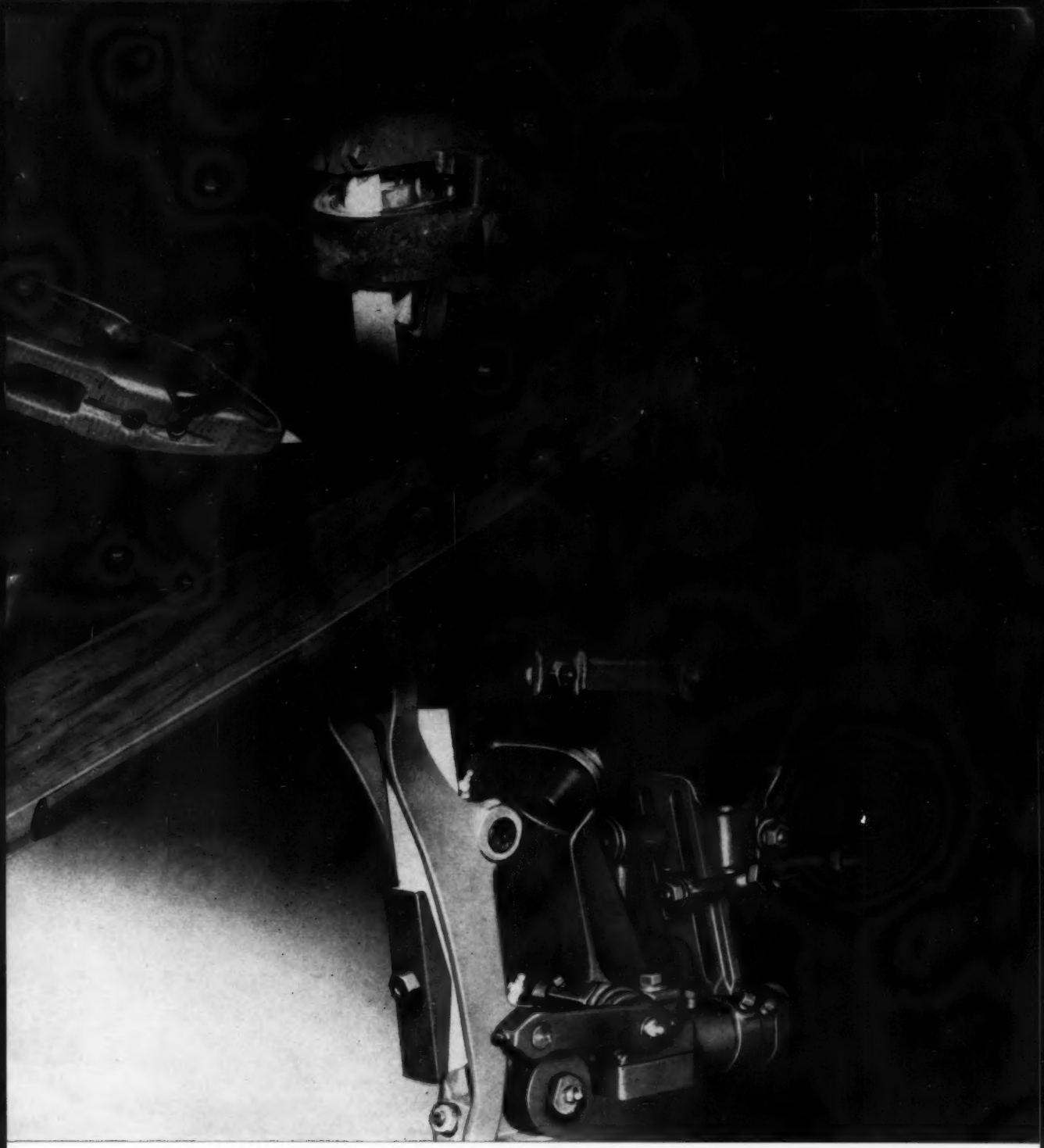
Rieter

AMERICAN RIETER COMPANY, INC., WEST CALDWELL, N. J.

In addition to this comber, 10 other Rieter machines can be seen at the Milan, Italy Exhibition, September 12-21, 1959



Planned for profit . . . Greater weave room efficiency and profit is more easily accomplished when Draper looms are backed by Draper accessories and **original** Draper repair parts. It's just good business sense to look to the **original** loom builder for quality in essential accessories and repairs. Every part bearing the Draper trademark reflects careful



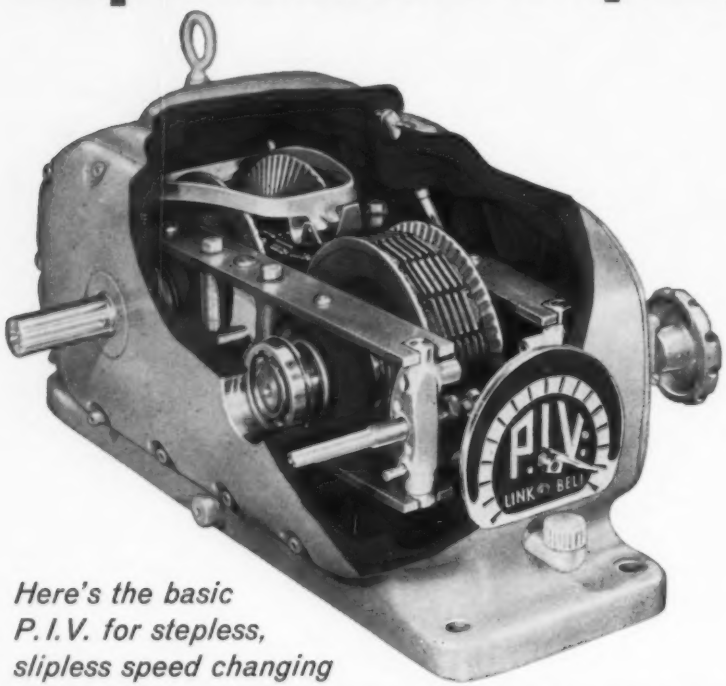
development and extensive mill trial. For these reasons, Draper parts and accessories give the maximum in service and performance. Why take chances on misfits or mongrel designs? When you specify **original** Draper products you are protecting your profit picture.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

LINK-BELT P.I.V. is available in all these ways for

super-sensitive quality control



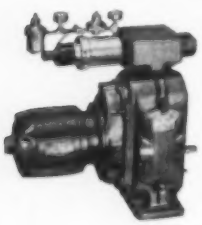
Here's the basic P.I.V. for stepless, slipless speed changing

Today a growing number of production machines and operations demand extremely accurate transmission of power with variable speed control. For these requirements, Link-Belt P.I.V. is available in the many ways shown below—with automatic controls and integral differential to satisfy an infinite number of variable speed applications.

Variable from top speed to minimum speed with no steps, no stops in between, Link-Belt P.I.V. is industry's only chain-driven variable speed drive. Teeth—not tension—permit positive, high-efficiency power transmission.

For information on the full P.I.V. line, call your nearest Link-Belt office or authorized stock-carrying distributor. Or write for Book 2274 on basic P.I.V., Book 2349 covering automatic controls and Book 2774 explaining P.I.V. with integral differential.

Link-Belt P.I.V. is available in 8 sizes and 16 standard types, in capacities from ½ to 25 hp—for horizontal or vertical mounting. Compact design simplifies installation as a separate unit or a built-in part of a machine. P.I.V. is totally enclosed, automatically lubricated.



PNEUMATIC (shown) — The P.I.V. pneumatic ratio changer is used as a final control element providing fully automatic control of speed. Operates from standard pneumatic controller in systems regulating pressure, temperature, rate of flow, etc.

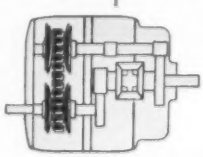
MECHANICAL — Predetermined timing, cyclic, or characterized regulation can be accomplished by P.I.V. with mechanical controls.

HYDRAULIC (shown) — Consists of a low-pressure hydraulic Servo system with a precision valve positioner. Intended to give automatic speed control by direct operation with any form of linkage. A minimum operating force is required.

ELECTRONIC — Flexible form of speed control to provide either "on-off" or modulated speed response of P.I.V. drive. Electric control motors are available to match a wide variety of electrical control systems.

P.I.V. with integral differential gearing

CONDENSED SPEED RANGE TYPE of integral differential results in a ratio range less than a standard P.I.V. with the advantage of increased horsepower capacity, high ratio stability and accuracy. These drives are applicable wherever small ratio range is required but with extreme accuracy of ratio control.



EXTENDED SPEED RANGE TYPE of integral differential results in infinite ratio range and output speeds down to zero with a constant input speed. Clockwise and counterclockwise rotation through zero is also obtainable. These drives may be used whenever a ratio range greater than 6 to 1 is required.

P.I.V. LINK-BELT VARIABLE SPEED DRIVES

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices and Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World. 15,169

Picker Overhauling Is Simple When You Depend On . . .

Aldrich Repair Service

We furnish skilled men for reworking pickers, and can deliver to these men any needed parts within 24 hours in most southern states, and within 48 hours to almost any cotton mill in the United States. This makes thorough overhauling a simple matter. Anything needed for a good job can be had at once, while the machine is down for repairs.

If you do your own overhauling, this speedy delivery service is just as valuable. You don't have to wait for repair parts — they are there when you want them.

We manufacture and install complete blending, opening, and picking systems for cotton and synthetics, and cleaning systems for cotton.

AldricH MachinE WorkS

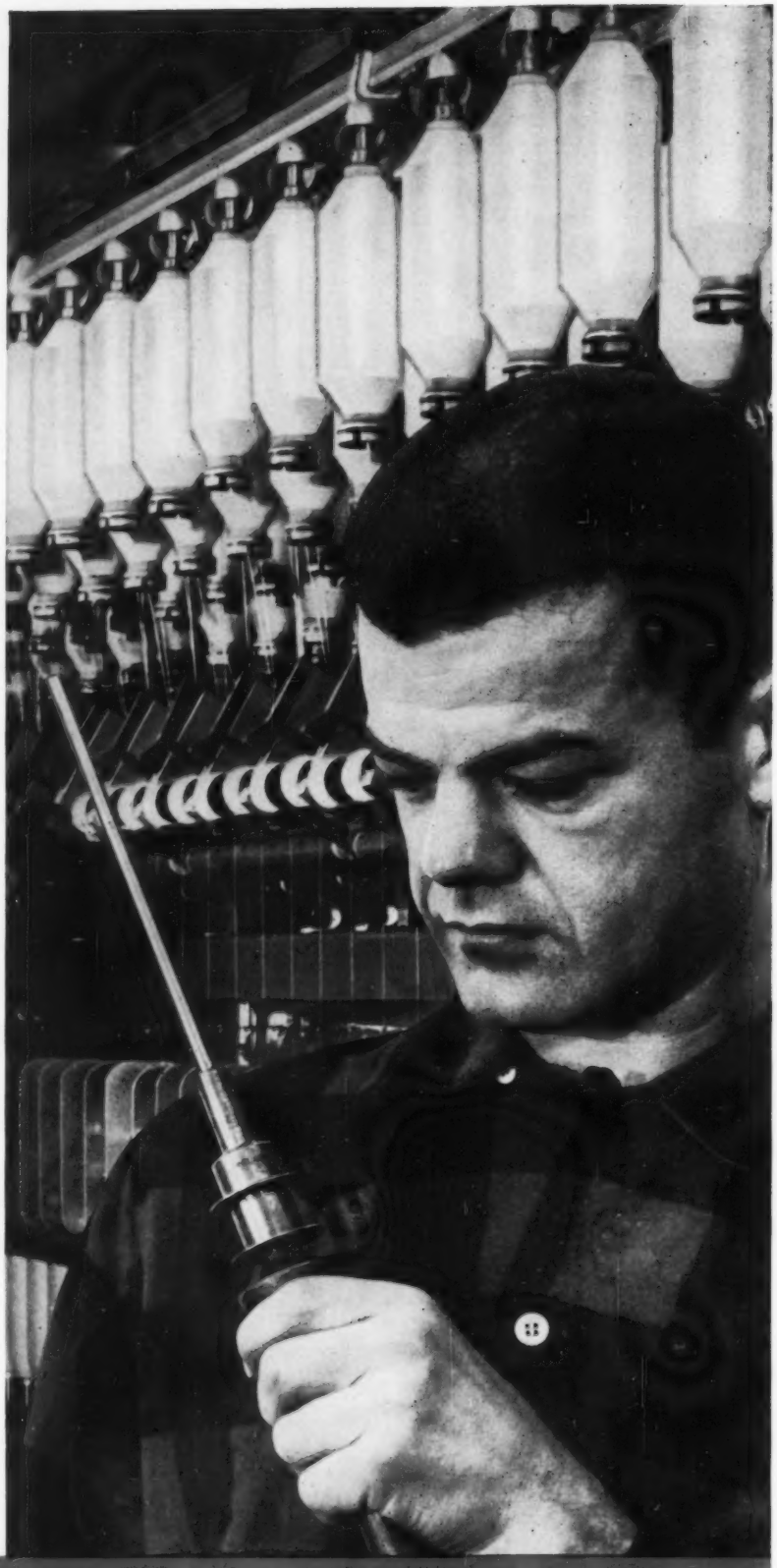
Greenwood, South Carolina

spinning a great yarn in cost cutting SPINESSO®

What should be lubricated—when and with what? Dramatic cost cutting stories often begin with the understanding eyes and exacting care of your maintenance man. You will get greater protection for your machinery and minimize maintenance if you provide him with Spinesso oils.

Spinesso oils are especially formulated to meet the requirements of high-speed spinning and twisting spindles, and precision textile machinery. They resist sludging due to oxidation, assure clean, gum-free operation, and provide instant lubrication during critical warm-up periods. Spinesso is available in three outstanding grades for various spindle speeds.

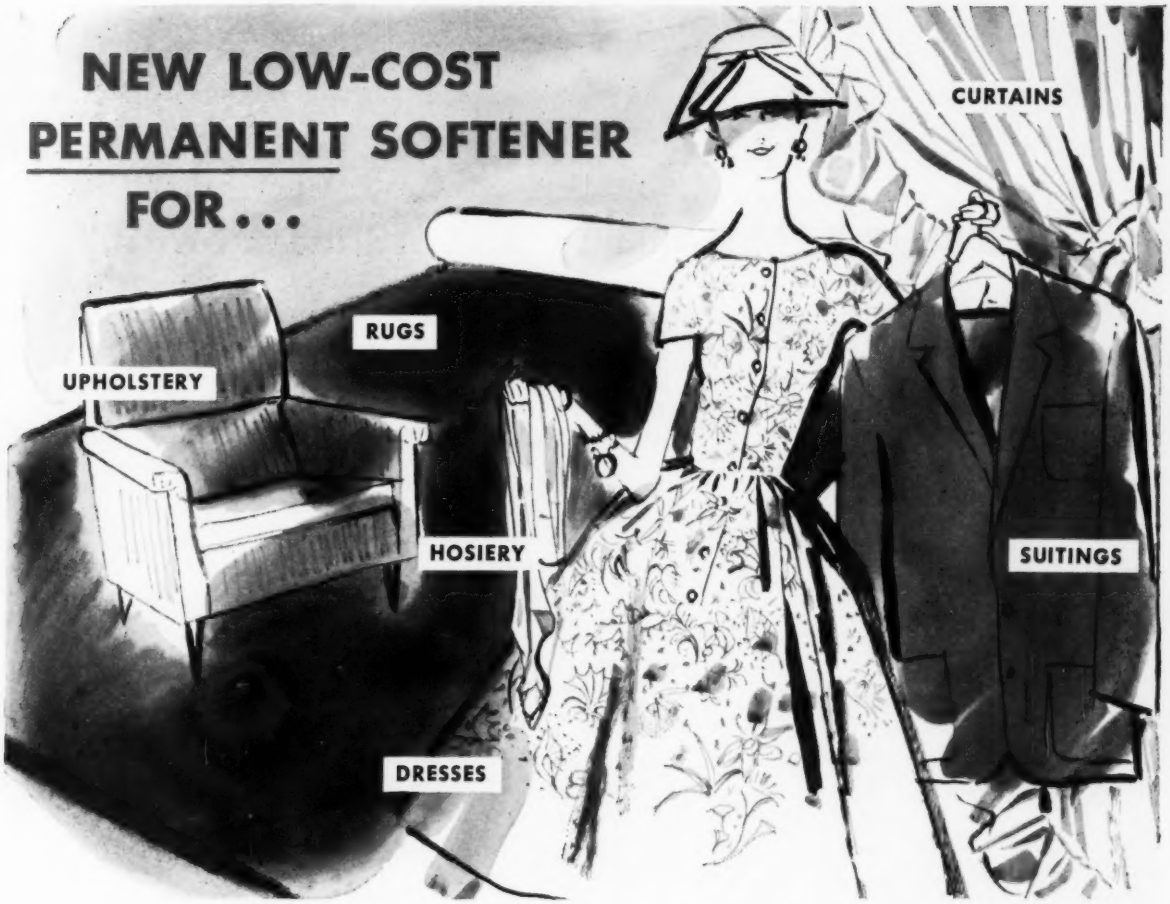
For information on the complete line of Esso products designed for the textile industry or for technical assistance available through a conveniently located Esso Sales Service Laboratory, contact your local Esso office, or write: Industrial Lubricants Division, Esso Standard Oil Company, 15 West 51st Street, New York 19, N.Y.



Esso

In Industry after Industry..."ESSO RESEARCH works wonders with oil"

NEW LOW-COST PERMANENT SOFTENER FOR...



Emulsifiable
A-C® Polyethylene

OFFERS SUPERB "HAND" PLUS

- HIGHER ABRASION RESISTANCE
- IMPROVED TEAR STRENGTH
- EXTRA CREASE RESISTANCE
- REDUCED NEEDLE CUTTING

Whatever fabrics you finish, you can benefit from the new textile finishes now being formulated with A-C Polyethylene.

Already widely accepted as a *softener and finishing agent* to impart superb "hand," the new emulsions containing A-C Polyethylene benefit every type of synthetic and natural fiber in some way over other textile finishes. In addition to better "hand," they provide higher abrasion resistance, improved tear strength, extra crease resistance, permanence through multiple cleaning cycles, and better sewability through reduced needle cutting.

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Write today for more information. Why not find out all about this new advance in textile finishing? Your textile chemical supplier either has an A-C Polyethylene finish on hand or can formulate one for your specific needs. Anionic, cationic and nonionic emulsions are available to fit all needs. (We are manufacturers of resins, not finishing emulsions.) Or write to us direct for complete information at the address below.

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"Our yarn is our best advertisement", states W. J. Pharr, Treasurer of the Pharr Worsted Mills, Inc., of McAdenville and Spencer Mountain, North Carolina. "Only equipment that does a superior job has been installed in our plants. For example, our entire drawing room is equipped with machinery built with the precision and quality of a machine tool."

Between their two up-to-the-minute plants, Pharr processes over ¼-million pounds of Nylon, Dacron, Orlon, Wool and blends each week. Nine Warner & Swasey Pacific Converters cut synthetics to specified staple lengths, and blend it with natural and synthetic fibers. Their entire production of blends, worsteds and synthetics is then processed on 74 Warner & Swasey Pin Drafter Intersecting Draw Frames.

Because of the flexibility of Warner & Swasey equipment, Pharr can process small lots of a wide selection of fibers with a minimum of down-time. Why not get the complete story on how precision Warner & Swasey equipment can cut costs, speed production and improve product quality in your own mill. Call our Field Representative today — he's as near as your 'phone.

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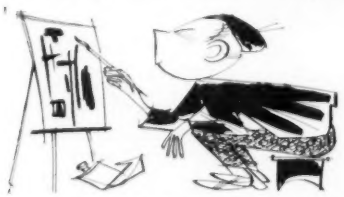
NEWS IN BRIEF

"Bullish on Textiles." "Definitely as to textiles I am bullish for the balance of 1959, and currently I see nothing that is depressing for the first half of 1960," James L. Rankin, president of Ewing-Thomas Corp., told textile panelists at a recent meeting of the National Association of Purchasing Agents. "I am reliably informed that a considerable volume of grey goods has been purchased for delivery during the first half of 1960 at prices about 10% above those which prevailed in the early part of 1958," he added.

Japanese Register 360,000 Textile Designs. The four-year-old Japan Textile Color Design Center has registered about 360,000 original designs, with another 340,000



catalogued as in the public domain, according to the Japan-U.S. Textile Information Service. Under an agreement among Japanese textile exporters, no textiles may be cleared for shipment from Japan unless the Design Center has certified that they are original or in the public domain.

USDA Grant to England. The British Cotton Industries Research Association (Shirley Institute) has received a grant from the U. S. Department of Agriculture for a five-year study of the mechanism of burning of cotton cellulose. Payment will be made from the sale of U. S. farm surpluses abroad.

Canada Urged to Study Consumer Complaints. At a recent joint meeting of the American Association of Textile Chemists and Colorists and the Canadian Association of Textile Colorists and

Chemists, held in Montreal, an AATCC spokesman urged Canada to adopt an interlaboratory statistical plan for the collection of textile complaints. Albert E. Johnson, chairman of AATCC's Committee on End Use Performance Tests, reported that such a system was formed in the U. S. at the beginning of this year. Laboratories all over the country are now collecting data and examining consumer complaints with the long-range goal of improving the quality of apparel, household, and industrial textiles.

NTA Asks Equalization Tax. Northern Textile Association has strongly condemned the government plan to increase the raw cotton subsidy to foreign textile mills to 8¢ per pound, effective August 1. Pending the development of a comprehensive system of import quotas on all textiles the Association called for the imposition of "an equalization tax on imports of cotton goods."

Record World Cotton Crop Predicted. A new record world cotton crop of 44.7 million bales (500 pounds gross weight) is estimated for the 1958-59 season, according to the Foreign Agricultural Service. This would be 1.2 million bales larger than the previous record crop in the 1955-56 season, and is 3.0 million bales above the 1957-58 output. The trend toward higher

Labeling Laws Misleading — Wilkinson

■ FIBER IDENTIFICATION in textile products can and does serve a useful purpose. I'm for it. On the other hand, I believe we are currently going down the wrong road, so far as ultimate consumer benefit is concerned.

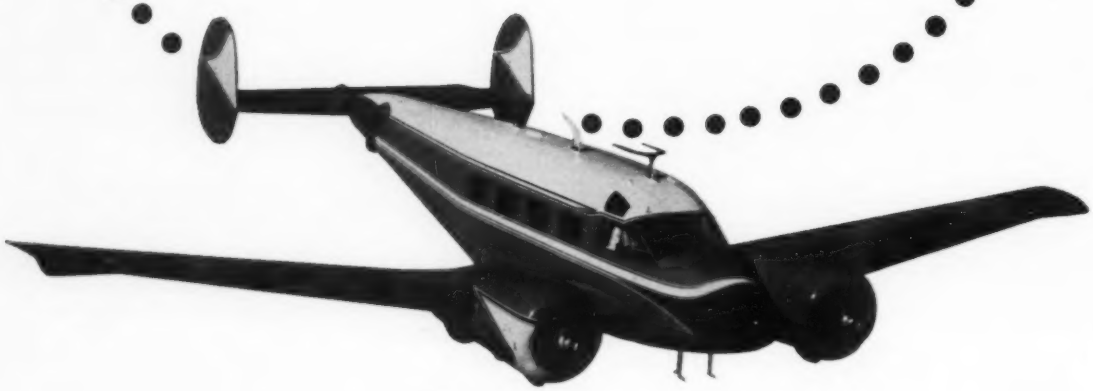
I believe current Federal laws in this area have equal, if not greater, capacity to mislead the consumer as they do to help . . . much more than mere fiber content controls the ultimate quality of the product . . . factors affecting quality are almost limitless. As in golf, where the most important shot is the one you are about to make, so it is with textile manufacture.

I look forward to the day when it will be feasible to expect a new approach to labeling: one that recognizes the limitation of a fiber label; one that will reduce the current burden and footless expense upon industry; and, one that will not tend to hoodwink the public.—*Edwin Wilkinson, president, National Association of Wool Manufacturers.*

Two attorneys who represent a number of textile manufacturing firms discuss the new FTC rules on fiber labeling in an exclusive feature article which begins on page 87 of this issue.—The Editors

EXTRA

mobility
time
profit



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BEECHCRAFT — AIRFLEET OF THE TEXTILE INDUSTRY

Passengers on New York's Staten Island ferry have been getting the red-carpet treatment lately—U. S. Testing Co. is conducting a three-month wear test of the carpet shown above.

yields per acre continues; the world average yield is estimated at well over half a bale per acre.

British Ease Hosiery Import Curb. A number of consumer items, including hosiery, can be imported into Great Britain in larger volumes beginning next January 1. No tariff revisions are involved. Since 1946, under the British Token Import Plan, hosiery going from this country into Britain has been limited to 30% by value of the prewar level of American producers' sales to the United Kingdom.

600 to Show at Milan. More than 600 exhibitors, representing manufacturers of textile machinery and accessories from all over the world,

have reserved space at the Third International Textile Machinery Exhibition, to be held in Milan,

"Like Rats Off a Sinking Ship"

■ ON AUGUST 1, 1959, the export subsidy on American cotton will be increased to 8 cents per pound. The American cotton mill will then be in a completely unbearable situation unless at the same time there are definite limits placed on how much of this cotton can come back into the United States in the form of yarn, cloth, and garments.

Up to now, the principal reason our foreign competitors have been able to sell in this market is because of their very much lower wage rates. The products which have come in were those which had a high per cent of labor in their total cost, such as fine combed goods and garments. With an 8-cent cotton subsidy, the foreign mill will be able to ship heavy goods such as sheeting and denim into the United States based solely on the saving they will have in their cotton cost.

Anyone who feels that I may be overstating this situation need only look at the published figures of American textile companies, including Avondale's. Our cotton cost is 50 per cent of our selling price, on the average. This would be somewhat higher in our coarse yarn mills and somewhat lower in a mill like Birmingham. An 8-cent subsidy on cotton is equal to 25 per cent of the cotton cost. With cotton being 50 per cent of the selling price and with the foreigner having a 25 per cent advantage in the cost of his cotton, it doesn't take a mathematical expert to

STAFF PHOTO

J. Craig Smith

figure that the foreigner can have a 12½ per cent lower selling price than the domestic mill. The advantage he has in respect to his lower wage rates is an additional advantage.

The tariffs, which are based on the value in the exporting country, have been watered down to a point where they are hardly worth talking about. What little tariff is left doesn't come anywhere close to offsetting the wage advantage, so the cotton subsidy will be a net advantage to the foreign mill.

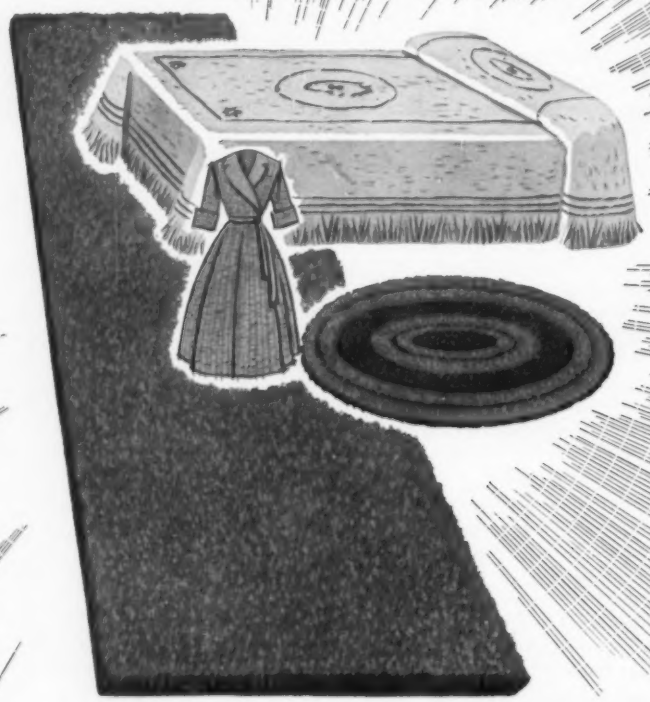
This subsidy to the foreign mill is being paid for by the American taxpayer, including those of us who look to the textile industry for our livelihood. To permit goods made from this subsidized cotton to come back into this country and take our markets is so completely unfair and unreasonable that we have difficulty getting our fellow citizens to believe that the situation exists.

Surely on August 1, when the subsidy is to be substantially increased, limitations will be placed on how much can come back in. If this is not done, it will not only wreck our industry but in the long run will defeat the purpose of the cotton subsidy, which is to reduce the surplus of raw cotton in the United States.

Obviously, no reduction in raw cotton surplus will take place if the subsidized cotton exports are permitted to displace bales of cotton which would otherwise be used in American mills. — *J. Craig Smith, president, Avondale Mills.*

TUFTED TEXTILES

. . . have contributed immeasurably to the economic surge of the South! In 1956 alone, tufted carpeting, and other products worth over $267 million were shipped by Southeastern manufacturers to markets here and abroad. *To produce over 90% of the nation's tufted products,* these manufacturers used over 251 million pounds of yarn and fabric, most of which was produced in the South. • The growth of the tufted textile industry has added impetus to the growth and development of the area. And the Trust Company of Georgia, with a full and complete FACTORING DEPARTMENT, has been pleased to participate in this growth as FACTOR for numerous textile producers. If your operation requires this specialized service, contact us. The Trust Company will gladly work with you and your bank in Dixie's "Forward March of Progress."

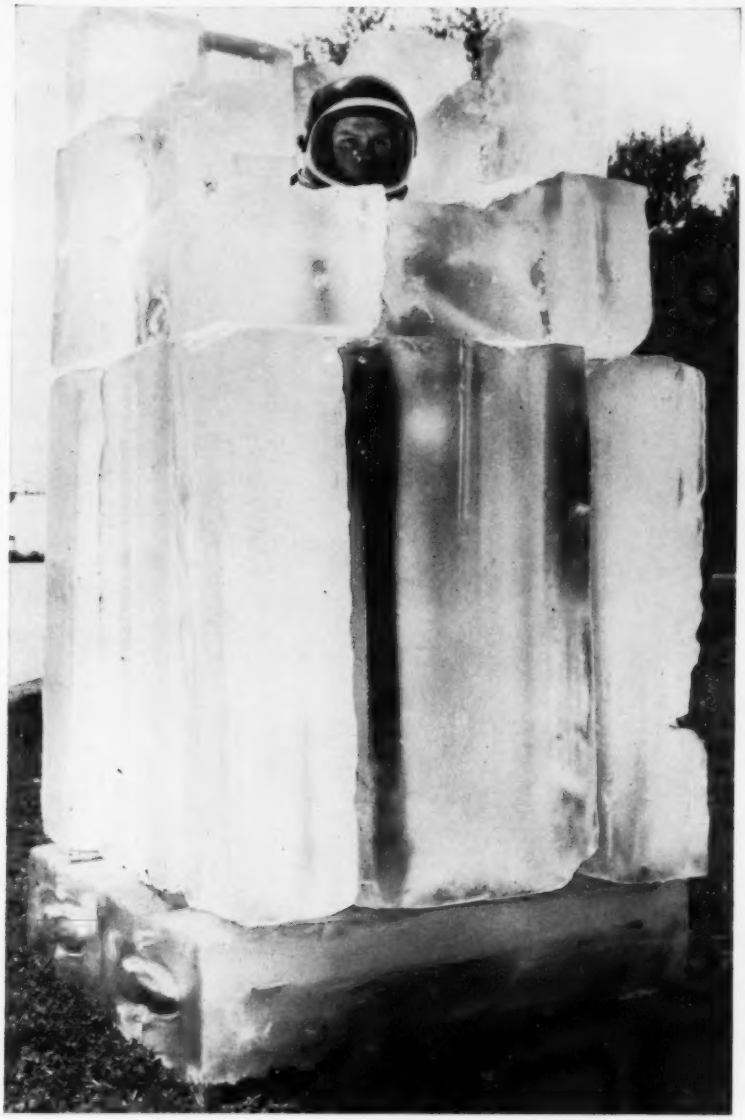


FACTORING DEPARTMENT

TRUST COMPANY OF GEORGIA
ATLANTA

Next door to every Mill in the South

A Naval aviator demonstrates the insulating properties of the new Mark IV omni-environmental suit, designed for wear by flight personnel at altitudes above 45,000 feet. It is claimed to enable a man to survive an hour's immersion in Arctic waters in 60-below-zero weather. Main part of suit is basically two-layer garment, chiefly neoprene-coated fabric.



Italy, September 12-21. Included are 22 exhibitors from the U.S.A.

Machinery Carload Rates Drop 12%. Rates for carload shipments of textile machinery by rail from northern points to southern mill areas have been reduced an average of about 12%. Minimum carload weight is 28,000 pounds.

Cotton Standards Expanded. International Cotton Calibration Standards Committee has approved an expansion of the standards. The expansion will add two calibration standards for fine cotton and one for very coarse fibers. The present standards include three American upland cottons for calibrating Micronaires (for fiber fineness) and Pressley fiber strength testers. U. S. Department of Agriculture is to obtain and will distribute the standard samples.

FTC Clarifies Labeling Rules. Federal Trade Commission has issued two policy interpretations concerning administration of the Textile Fiber Products Identification Act: 1. Fiber-content analyses will, where possible, be made according to procedures described in textile standards published by the American Society for Testing Materials. 2. Products acquired before the effective date of the Act (March 3, 1960) are exempt from its provisions, provided that they are marketed or handled after the effective date in the same basic form as that in which they were acquired.

Georgia Textile Industry Described. "The Future of Georgia Is Woven in Textiles" is the name of a 20-page booklet newly published by the Georgia Textile Manufacturers Association, Inc. The booklet

is an up-to-date revision of a 1950 edition with the same title. It features pictures, text, and statistics on the textile industry, and a map of Textile Georgia. Single copies are available free from the Association, at 740 C & S National Bank Building, Atlanta 3, Ga.

PTI Branches into Plastics. Sixty-five students recently completed a twelve-week course in plastics technology at Philadelphia Textile Institute. The course was presented with the cooperation of the Society of Plastics Engineers, and is to be repeated in the fall. Other courses in plastics are being considered.

Statistics Course. A special short course on statistical methods will be offered for research workers in industry and the physical sciences at Brevard College, Brevard, N. C., August 10-15. Introductory and

advanced sections will be offered, both conducted by the N. C. State College Institute of Statistics and

Inside view of a spotlessly clean Monel evaporator. Photo by Loebel.

How International uses a unique alloy to produce purer salt

The gleaming interior of the giant salt evaporator shown above is exposed to boiling brine for more than 150 hours each week. Yet not a trace of corrosion is ever seen—because the evaporator is made entirely of a unique copper/nickel alloy, Monel.

International Salt Company replaced older cast-iron evaporators with Monel because it is completely unaffected by pressures and temperatures in brine evaporation. Scale and other deposits never form on its smooth surface. Thus, the Sterling Salt produced in Monel units is of higher purity than was ever possible before.

Today, International has four corrosion-proof Monel evaporators (each 65 ft. high and weighing 25 tons) linked together at its Watkins Glen, N. Y., refinery. This is the salt industry's first all-Monel "quadruple-effect" evaporation system . . . with a capacity of over 600 tons a day.

In addition to improving salt purity, International's Research and Development program has perfected a variety of techniques which can help your company use salt more efficiently. Contact International Salt Company, Inc., Scranton, Penna., or any of the district offices listed below.

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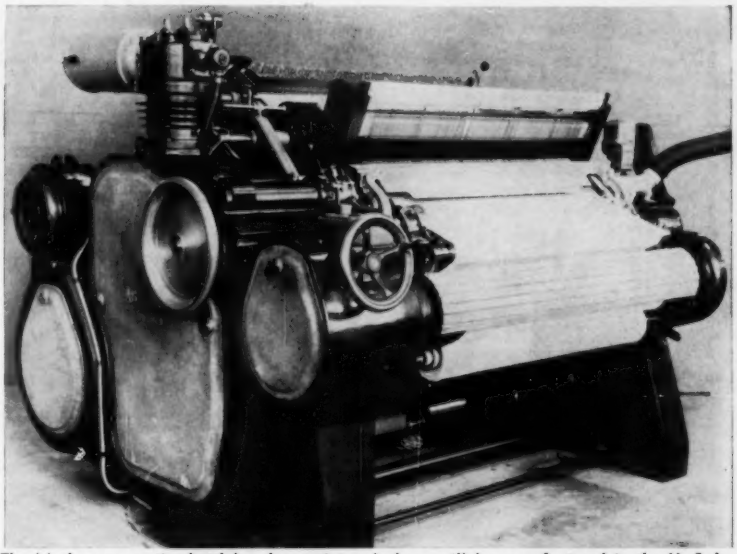
the College Extension Division.

Blends Key to More Wool Use. Wool men must adopt a "more realistic view" toward man-made fibers, said Premier Henry E. Bolte of Victoria, Australia, on a recent visit to New York. He suggested that stress should be placed on the importance of blends of wool with synthetic fibers, rather than promotion of all-wool fabrics.

Canadian Synthetics Outlook. With output and employment in 1958 declining for the second consecutive year, Canadian producers of synthetic-fiber textiles see no immediate improvement, according to the Silk and Rayon Institute. They expect continued strong import pressure, particularly from the U.S., and no early strengthening of low earnings. There is some hope that stronger enforcement of antidumping regulations will help the industry.



The Maxbo pneumatic shuttleless loom pictured above will be manufactured in the U. S. by Abney Mills' Southeastern Loom & Machine Works, through an agreement signed recently with AB. Maxbo, Norrkoping, Sweden. The loom will be sold in the U.S. and Canada by Edda International Corp. The operation of the loom was described in detail in the article, "Shuttleless Loom Blows at 320 ppm," TEXTILE INDUSTRIES for April, 1958, pages 114-116.

Merchandising Notes

American & Efird Mills, Inc., has released a file folder of 48 swatches in solid and heather shades, showing important color ideas in circular knit fabrics. Included are fabrics of Arnel-Orlon, Orlon-rayon, Orlon-wool, and Acrilan.

The William Carter Co. includes a layette collection of items in a knitted fabric of 80% Orlon and 20% cotton in its fall-winter line.

Eastman Chemical Products, Inc., took panel space during the month of June on the sides of 125 trucks servicing New York's garment district to advertise its Kodel polyester fiber. * * * Kodel will be introduced in women's blouses this fall by four manufacturers.

Indian Head Mills, Inc., has introduced no-iron sheets and pillow cases in four solid colors, under the Pequot Easy-Care label.

Kravet Fabrics, Inc., is offering curtain fabrics in silk-screened patterns matching those available on vinyl floor coverings manufactured by Robbins Floor Products, Inc.

James Lees & Sons Co., Inc., will weave 73,000 square yards of dynel carpeting in a round wire velvet construction for installation in the new Union Carbide Building, New York, scheduled for completion early next year.

Stretch slipper version of the familiar scuff, called "Rondo Scamps," was recently introduced by Robert Hosiery Mills.

Milliken Woolens, Inc., has introduced a tricot fabric made of Agilon textured nylon yarn, designed for use in lingerie. It will be included in the fall line of Rogers Lingerie.

Tarpaulin Manufacturers Association has established quality standards, a buyers' guide, and a guarantee backed by each member of the Association. The TMA label is designed to assure the customer that the tarpaulin purchased is the proper weight for a specific end use.

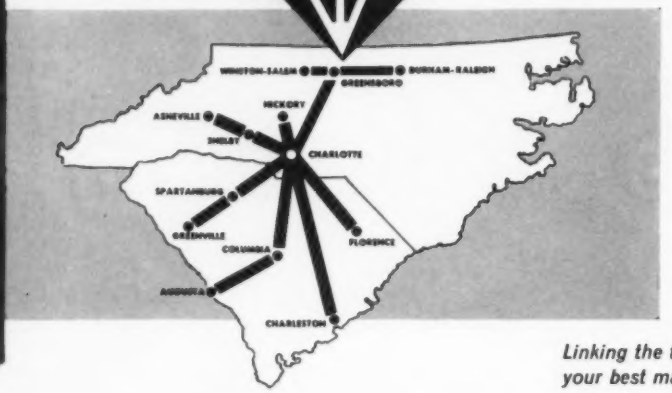
U. S. Rubber Co.'s Textile Division has adopted the trademark "Spring Set" for its line of twist-set nylon and acetate-nylon carpet yarns.

"Variety Store Merchandiser" reports from a survey that 130 million bed sheets were sold in the U. S. in 1958—about three sheets per family. One-fourth of these were colored sheets, and a little less than one-fourth were fitted sheets.

Wool Bureau has launched a broad-scale advertising and promotional campaign to reinforce the "strong resurgence" of wool as an apparel and furnishings fiber and to exploit the new "easy-care" trends in wool technology. Full-page ads in the *Reader's Digest* and other high-circulation consumer magazines are included in the multimillion-dollar campaign.

the man from CENTRAL

gives you the **IMPORTANT TEXTILE COVERAGE OF THE CAROLINAS**



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Linking the textile producing areas with your best markets in the East and West

CENTRAL MOTOR LINES, Inc. *General Offices: Charlotte 1, N. C.*

Finishers WISE DESIZE *with* EXSIZE®

A 40-year record of service to the cotton finishing industry assures you that Exsize removes starch. . . . . ⟩ **FAST SAFE SURE**

Carefully standardized for uniform enzyme activity, Exsize is exceptionally effective in high-speed desizing ranges due to its built-in heat stability.

Be sure—Desize with Exsize!

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Industrial Products Division • Merchandise Mart
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RECENT TECHNICAL AND COMMERCIAL DEVELOPMENTS

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

TEST METHODS

Tensionless Inspection Machine. Durrant & Sons Ltd., of England, have developed the "Jersi-Fab" tensionless fabric inspection machine, said to be suitable for lace, net, and jersey fabrics. Measuring is tensionless, the material rolling off the unwinding arbor as the inspection drum turns, and speed can be controlled to from 10-60 ypm.

Inspection By Mirror. A German-made cloth inspection apparatus is provided with five mirrors which divide the fabric into sections. The effect given is that of an apparently stationary picture of the cloth section being examined. Use is primarily in front of tenters and with printing machines.

MACHINERY AND PROCESSES

Beam for Warp Knitting. England's F.N.F. Ltd. has introduced a new section beam as a complete unit in one piece. It is reported that 32,000 yards of 30-denier flat nylon at moderately high tension per end is well within the capacity of the beam. Problems associated with core shrinkage and reduction of barrel diameters are claimed to be completely eliminated.

Continuous Rotary Curer. John Dalglish & Sons Ltd. have introduced the Dalglish-Artor rotary machine designed to process a number of layers of cloth simultaneously. Capacity is about 450 yards of fabric, and treatment may be for longer periods of time at lower temperatures (up to 320 F for as long as 6 minutes at speeds of 80 ypm) than with conventional curers.

Automatic Screen Printing. A Japanese machine can print patterns with as many as 21 colors in design repeats from 18 to 48 inches. Operating speed is up to 12 ypm and a set of screens can be changed in 10 to 30 minutes. All types of fabrics, ranging from fine constructions to heavy corduroys and velvets, may be processed.

One-Step Hosiery Dye-Finish. The West German Bellfour Colorplast machine is said to combine hosiery dyeing and finishing in one process. Hose are automatically scoured, dyed, plasticized, rinsed, sized, and dried at the rate of 250-400 dozen pairs per eight-hour shift. High temperature dyeing is used, requiring less dyestuff than in conventional machines.

FIBERS AND YARNS

Improved Cellulosic Fibers. Three patents recently issued to the American Viscose Corp. disclose means for the production of all-skin rayon filaments through the use of various additives in the spinning solution. Another patent, assigned to Courtaulds, Inc., covers a method for improving the properties of regenerated cellulosic fibrous materials by impregnation with a heat-hardenable resin and with a water-soluble ketone.

Treatment of Nylon Filaments. Increased flexibility of a monofilament nylon line without decreased strength is achieved by etching the filament surface microscopically with strong formic acid, according to an Iowa inventor. At the same time the surface is dulled, dissipating reflected light.

Voluminous Yarn. A method for obtaining a voluminous yarn by drawing it from its source at one linear speed, forwarding it at a higher speed to a zone in which false twist is imparted, followed by setting and collecting at a reduced linear speed is the subject of a U. S. patent issued to British Celanese Ltd.

Japanese Polyurethane Fiber. American Cyanamid Co. has announced that arrangements have been made with Toyo Koatsu to evaluate their "Urylon" polyurea fiber, developed in 1957, and to study cost and processing data to consider possible production in this country.

FABRICS AND FINISHES

Wash-and-Wear Rayon. "Perl-Dri" is the name adopted by American Enka Corp. for a group of wash-and-wear fabrics composed of 100% Enka filament rayon yarns. First fabric to be introduced will be for the blouse trade, but others containing spun yarns will be available at a later date. Enka will control standards of performance and testing.

Solvents in Polyolefin Dyeing. A British patent issued to a German concern describes the dyeing of polyethylene yarns by use of disperse or basic dyes dissolved in an aromatic hydrocarbon. One example cited involves application of a Celliton dyestuff to a polytethylene yarn in a bath of p-xylene at 140 F for one hour.

Antistatic Finishes for Acrilan. Chemstrand Corp. has issued a bulletin in which are listed seven agents to provide durable antistatic protection for Acrilan fabrics. Also endorsed are 63 other antistatic finishes which give temporary protection.

Orlon Sweaters. New types of sweaters to be introduced this fall include those of Taslan textured spun Orlon yarns and plush knits. The latter are made of low-twist Turbo high-bulk yarns knitted on interlock machines, napped and sheared [see page 150 of this issue of TEXTILE INDUSTRIES for details of production methods].

TEN-O-FILM starches and synthetics go hand in hand

Looking for a starch that's compatible with the adjuncts you use in warp sizing synthetics? Ten-O-Film is your answer. This chemically modified starch derivative was specially developed to simplify and improve processing of both the new synthetic and natural fibers.

Ten-O-Film brings new economies to sizing operations. It requires less boiling time than conventional starches: Ten-O-Film reaches stable viscosity in 30 minutes and remains stable even under prolonged heating and circulation. Desizing can be carried out more readily, hence more economical dyestuffs can be used and with greatly reduced bleeding. The clarity of Ten-O-Film sizes will not mask the bright or pastel shades so widely used in modern fabrics. In desizing, the soap boil-off may sometimes replace the enzyme desizing process.

These are only a few of the advantages of using Ten-O-Film starches. Our technical representative will give you the complete Ten-O-Film story. He has tried and tested formulations for all popular synthetic and natural fiber blends.

The technical facilities of the world's largest corn processors await your call. These facilities include laboratories devoted to continuing research in textile technology, as well as unmatched sources of firsthand textile knowledge and experience. Our technical representative will be glad to help you take advantage of these resources. For full information, call our nearest sales office or write direct.

TEN-O-FILM® starches

Fine products for the Textile Industry: CLARO® · GLOBE® EAGLE® · FOXHEAD® · TEN-O-FILM® starches · GLOBE® dextrines

CORN PRODUCTS SALES COMPANY 17 BATTERY PLACE, NEW YORK 4, N.Y.

EXECUTIVE VIEWS

Second thoughts on Palm Beach

LAST MARCH during the annual convention of the American Cotton Manufacturers Institute held at Palm Beach, Fla., we had the pleasure of spending a little time with an old friend who runs a small-to-medium-size cotton mill up Carolina way. Our friend can point with pride and view with alarm as well as the next fellow. He also likes sun, sand, and warm weather in March, particularly when they can be listed on his Form 1040.

After twenty-five years or so in the cotton mill business, our friend is a pretty skeptical fellow. But he is also a paid-up member of ACMI; National Cotton Council; National Association of Manufacturers; national, state, and local Chambers of Commerce; Rotary; YMCA; and sundry other trade, business, scientific, engineering, educational, welfare, health, and social organizations. So taking the larger view is a way of life with him.

But while our friend voted a resounding "Aye" to each proposal calling for statesmanship in the form of realistic operating schedules, low inventories, and firm prices, he had some mental reservations. He'd been to textile conventions before.

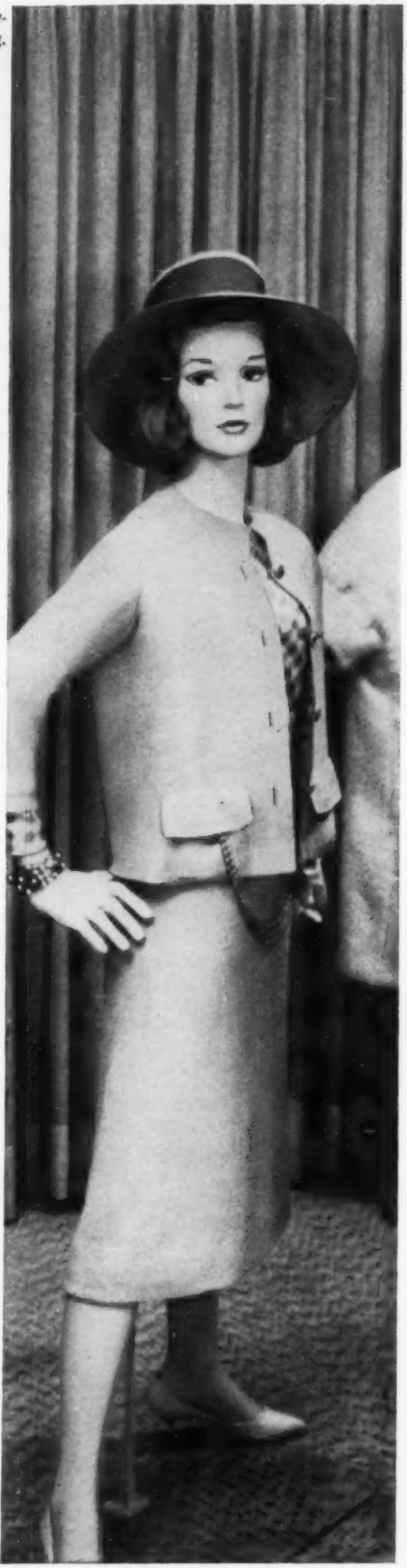
Now this mill man has written us, enclosing some second thoughts on Palm Beach. What seems to have touched him off was Harry Riemer's poem, "Textile Hope Springs Eternal," which we published on page 30 of our June issue. Mr. Riemer also expressed some reservations, but not strongly enough for our friend, who immediately dictated a letter to us.

Our friend is frequently called on to address father-and-son ban-

MADE OUT OF WHOLE CLOTH?

No. 12 in a series—How your Du Pont salesman is backed by many sales-building activities, including Fiber Research, Technical Service, Fabric Development and Merchandising.

Mr. Arkin...the man from Du Pont ...and some arrivals from Paris



The gentleman on the right is Gomer H. Ward, fiber ambassador to Paris—otherwise known as Du Pont's Merchandise Manager for Dresswear. Mr. Ward and some of his associates fly to Paris twice a year. In fact, they have recently returned from the fall showings. Working closely with the outstanding personages of the Paris fashion world—Dior, Givenchy, Balmain and Cardin, Griffe and Goma, La Roche, Patou and Heim—Du Pont people show how Du Pont fibers can add beauty and utility to superb couture. So when the Paris creations are unveiled at the shows, Du Pont fibers are very much in the limelight.

After the shows, it's back to New York for Mr. Ward. And now, Du Pont sets up a showing of its own, right in the Empire State Building offices . . . a showing that features elegant examples of the happy marriage of Paris fashions with Du Pont fibers . . . a showing seen and studied by American cutters like Andrew Arkin (left) of Arkin, Inc., photographed here with Mr. Ward.

By stimulating manufacture interest in this way, we are broadening the market—*your* market and ours—for fabrics made with Du Pont fibers. Through your Du Pont salesman, you, as a customer, have ready access to a range of technical and merchandising information unique in the textile industry.

From raw fibers to retail sales
...Du Pont helps build profits for you

PRODUCT and PROCESS NOTES FROM DU PONT

New whitening agent for "Dacron"* —"Uvitex"† ERN Conc. is a new effective whitening agent for garments made of "Dacron" polyester fiber. The product developed by Ciba Company, Inc., can be applied to fabrics by either the exhaust method or a pad-heat procedure at any convenient stage of processing and in combination with other treatments such as scouring, bleaching or finishing. Additional information on this technique can be obtained from Technical Service Section, Textile Fibers Department.

A new principle of spun yarns—The sheath-core principle is a new technique recently developed by Du Pont for spinning yarns of "Orlon"** acrylic fiber. Unusual aesthetic effects can be obtained in fabrics through the placement of fibers of different deniers on the surface or in the core of the yarn bundle. The principle utilizes the centrifugal forces of the spinning operations, as well as the high-bulk technique, working together to produce yarns containing a high-shrinkage core from fine denier fibers, in a low-shrinkage sheath of heavier denier fibers. These yarns possess unusual surface characteristics, plus good wash and wear performance, and improved resistance to shedding or surface distortion. The sheath-core principle offers diversity in styling, and has already been employed in a wide range of knit constructions from fine gauge (1/30's worsted count and above) to coarse gauge constructions using 2/15's worsted count yarn. Application of the principle has been largely in knitted fabrics with "Orlon" acrylic fiber—however, further development work utilizing this concept in other fibers and fabric constructions is now in progress.

"Acele"* acetate yarn**—The recently introduced 40 denier "Acele" tricot yarn has picked up extensive trade interest. This latest acetate yarn is designed specifically for superior lingerie fabrics made on fine-needle, 32-gauge knitting equipment. This new count is offered on 42" beams with as many as 1,360 ends per beam.

*Du Pont's trademark for its polyester fiber
**Du Pont's trademark for its acrylic fiber
***Du Pont's trademark for its acetate yarn
†Reg. trademark of Ciba Company, Inc.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Sales upped 400% since Pogrelis-Meyer, Inc. started Heller Factoring

"Pretty Maid" casual wear was making many misses happy, but the Pretty Maid line presented problems to Harry A. Meyer and Ben B. Pogrelis; their company needed growth capital. That is why, in March, 1951, Pogrelis-Meyer Inc. became a Heller factoring client.

Since then, with the help of Heller service and counsel, the partners have been free to devote their energies to styling, producing and merchandising. Bad debt losses were eliminated, and so were the clerical expenses of credit, collection and accounts receivable departments. Capital has always been available and it turns over faster, does more work, earns more. Buying has been advantageous. Overhead has been spread by pre-season production in this seasonal business. A bigger slice of the market has been won — a 400% sales increase since Heller service began.

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quets, testimonial dinners, and kick-offs for fund raising drives, so he has a rambling style, full of superfluous anecdotes and vignettes of better days (before March 4, 1933). But at his own request, we are reproducing his comments in full.

On to Bal Harbor!

DEAR MR. EDITOR:

Did I ever tell you about my friend, Second Lieutenant Elliott Whyte Kitson? The Lieutenant is a great, great grandson of Josiah Kitson, who invented the Cartwright loom. (Actually, the invention was an accident. The old gentleman, for reasons of his own, was trying to discover penicillin.)

Lieutenant Kitson is a sort of corn pone Ivy Leaguer who presently serves as president and treasurer of his small family mill down on the Pee Dee River. The Kitsons are quite well fixed, but he insists on running the mill because he has some rather novel ideas and he likes to try them out. For example, he has put pay toilets in the rest rooms: "These people don't really appreciate an employee benefit unless they contribute a little something themselves."

And he writes. Most of his material is published in the *Cotton Picker,* his avant-garde employee publication; however, *Ballyhoo* and *Literary Digest* have carried Kitson articles. (Reprints are available in the reception room at Kitson Cotton Mills.)

The other day I was in his office and he showed me a poem which was inspired by Harry Riemer's offering in the June TI. Of course neither of us believes Mr. Riemer wrote the poem, because you did not carry his picture. But I thought you might be interested in the viewpoint of this egghead linthead.

ONE OF THE BOYS
FROM PALM BEACH

MR. RIEMER IS A DRIEMER
(. . . or, After the Bull Is Over)

At the A.C.M.I. meeting
The atmosphere was gay.
Handshakes in friendly greeting
Were the order of the day.

We talked to the reporters—
Discussed our business with 'em—
And viewed the next two quarters
with guarded optimism.

We kicked at two-price cotton, then,
And stated our position
On those lint cleaners at the gin,
And foreign competition.

We listened to some sage advice
On excess inventories.
And while waiters brought more ice,
Picked up a few new stories.

(Continued on page 149)

FUTURE EVENTS

Date	Event	Location
Sept. 9-11	Council, Council Committees, Research Committees AATCC	Hotel McAlpin New York City
10-11	Fiber Society, Inc.	Princeton, N. J.
10-21	3rd International Textile Exposition	Samples Fair Grounds Milan, Italy
12	Southeastern Section AATCC	Ida Cason Callaway Gardens Pine Mountain, Ga.
17-18	Combed Yarn Spinners Association annual convention	The Cloister Sea Island, Ga.
17-18	Chattanooga Yarn Association outing	The Read House Chattanooga, Tenn.
18	Northern New England Section AATCC outing	Wachusett Country Club West Boylston, Mass.
18	Delaware Valley Section AATCC	Reading, Pa.
19	South Central Section AATCC	Hotel Patten Chattanooga, Tenn.
23-24	Northern Textile Association annual convention	Wentworth-by-the-Sea Portsmouth, N. H.
25	Niagara Frontier Section AATCC	Niagara Falls, Ont., Canada
25	Western New England Section AATCC	Blake's Restaurant Springfield, Mass.
25-26	Piedmont Section AATCC	Barringer Hotel Charlotte, N. C.
28-29	American Gas Association Textile Processing Symposium	Sedgefield Inn Greensboro, N. C.
Oct. 1-2	Textile Quality Control Association	Grove Park Inn Asheville, N. C.
3	Textile Operating Executives of Georgia slashing and weaving discussion	Georgia Tech Atlanta, Ga.
7	Chemical Finishing Conference	Mayflower Hotel Washington, D. C.
8-9	Southern Textile Methods and Standards Association	Clemson House Clemson, S. C.
8-9	North Carolina Textile Manufacturers Association convention	Carolina Hotel Pinehurst, N. C.
7-10	AATCC national convention	Sheraton Park and Shoreham Hotels Washington, D. C.
10	Alabama Textile Operating Executives carding and spinning discussion—9:30 A.M.	Langdon Hall Auburn, Ala.
15-16	Quartermaster Association Annual National Convention	Hotel Statler-Hilton New York City
17	Textile Education Foundation, Inc.	Georgia Tech Atlanta, Ga.
24	Mid-West Section AATCC	Bismarck Hotel Chicago, Ill.
27	Institute of Textile Technology technical advisory committee and board of trustees	I.T.T. Charlottesville, Va.
1960		
Feb. 8-9	National Cotton Council annual convention	Dallas, Texas
Apr. 7-9	American Cotton Manufacturers Institute convention	Americana Hotel Bal Harbor, Fla.
May 23-27	American Textile Machinery Exhibition	The Auditorium Atlantic City, N. J.
May 31-June 2	Cotton Research Clinic	Grove Park Inn Asheville, N. C.
Oct. 3-7	Southern Textile Exposition	Textile Hall Greenville, S. C.

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COURTAULDS

CORVAL

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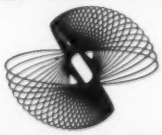
COURTAULDS

TOPEL®



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FOR FURTHER INFORMATION WRITE
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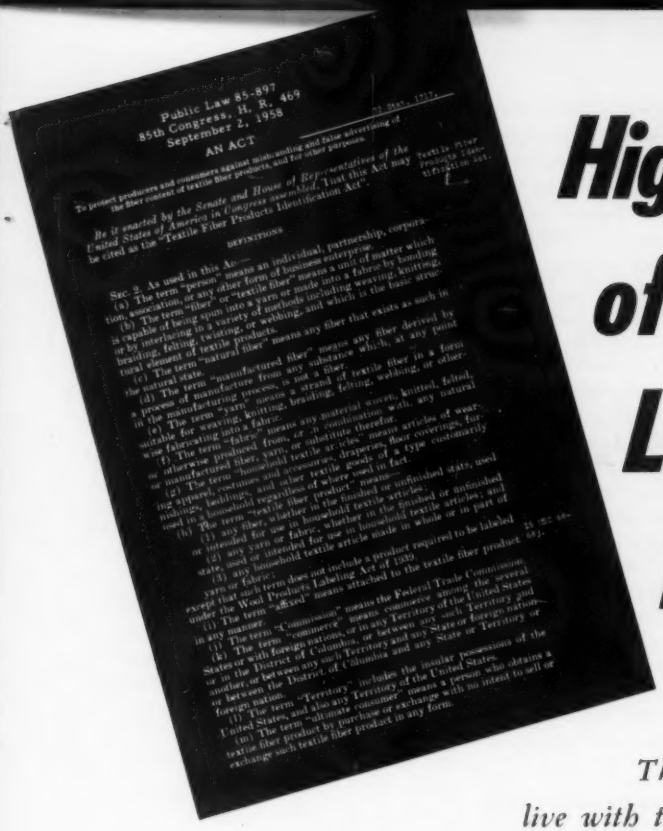
Public Law 85-897
85th Congress, H. R. 469
September 2, 1958

AN ACT

To protect producers and consumers against misbranding and false advertising of the fiber content of textile fiber products, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Textile Fiber Products Identification Act".

DEFINITIONS

Sec. 2. As used in this Act—

(a) The term "person" means an individual, partnership, corporation, association, or any other form of business enterprise.

(b) The term "fiber" or "textile fiber" means a unit of matter which is capable of being spun into a yarn or made into a fabric by bonding, or by interlacing in a variety of methods including weaving, knitting, braiding, felting, twisting, or webbing; and which is the basic structural element of textile products.

(c) The term "natural fiber" means any fiber that exists as such in the natural state.

(d) The term "manufactured fiber" means any fiber derived by a process of manufacture from any substance which, at any point in the manufacturing process, is not a fiber.

(e) The term "yarn" means a strand of textile fiber in a form suitable for weaving, knitting, braiding, felting, webbing, or otherwise fabricating into a fabric.

(f) The term "fabric" means any material woven, knitted, felted, or otherwise produced from, or in combination with, any natural or manufactured fiber, yarn, or substitute therefor.

(g) The term "household textile articles" means articles of wearing apparel, costumes, and accessories, rugs, floor coverings, furnishings, beddings, and other articles of a type customarily used in households regardless of where used in fact.

(h) The term "household" means any family unit.

(i) The term "textile fiber product" means any product, whether in the finished or unfinished state, used or intended for use in household textile articles, or any yarn or fabric, whether in the finished or unfinished state, used or intended for use in household textile articles and any product which is made in whole or in part of any such yarn or fabric; except that such term does not include a product required to be labeled under the Wool Products Labeling Act of 1939.

(j) The term "affixed" means attached to the textile fiber product in any manner.

(k) The term "Commission" means the Federal Trade Commission.

(l) The term "commerce" means commerce among the several States or with foreign nations, or in any Territory or the District of Columbia, or between any Territory and another, or between any such Territory and the District of Columbia, or between any such Territory and any State or Territory or the District of Columbia, or between the District of Columbia and any State or Territory or foreign nation.

(m) The term "Territory" includes the insular possessions of the United States and also any Territory of the United States.

(n) The term "ultimate consumer" means a person who obtains a textile fiber product by purchase or exchange with no intent to sell or exchange such textile fiber product in any form.

Highlights of the Labeling Law

The industry must learn to live with the Textile Fiber Products Identification Act. Here is a discussion of the rules and regulations the FTC will use in administering it

by Jules J. L. Hessen* and James C. Slaughter

*Hahn, Hessen, Margolis & Ryan** Attorneys*

Exclusive

ON JUNE 1, 1959, the Federal Trade Commission issued its final rules for complying with the "Textile Fiber Products Identification Act," enacted into law on September 2, 1958. The Act is intended primarily to protect producers and consumers against misbranding and false advertising of the fiber content of textile fiber products.

Members of the industry must learn to live with the new Act just as they have with the Wool Products Labeling Act and the Flammable Fabrics Act. In this article, we shall discuss some of the "highlights" of the Federal Trade Commission rules.

EFFECTIVE DATE OF ACT

The Textile Fiber Products Identification Act becomes effective next March 3rd. Section 15 of the Act reads:

> The Commission shall provide for the exception of any textile fiber product acquired prior to the effective date of this Act.

The Federal Trade Commission has interpreted this exception as applying to textile fiber products acquired prior to March 3, 1960, where such products are marketed or handled on or after March 3, 1960, in the same basic form as that in which they were acquired. The exception is not applicable to textile fiber products manufactured or processed on or after March 3, 1960, from other textile fiber products acquired prior to that date where such manufacturing or processing changes the basic form of the textile fiber product to the extent that it becomes a different type of product.

For example, the exception would apply to yarns, fabrics, or garments acquired prior to March 3, 1960, which are marketed or handled thereafter as yarns, fabrics, or garments, respectively, without any change in the form of such products. But such exception would not apply to fabrics manufactured on or after March 3, 1960, from yarns or fibers acquired prior to that date, or to garments manufactured on or after March 3, 1960, from fabrics acquired prior to that date. Fabrics acquired in the grey before March 3, 1960, but processed or finished after that date would not lose their right to exception as a result of such processing or finishing operation.

Congress has given the industry

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*Mr. Hessen is president of the Lawyers' Association of the Textile Industry, Inc.

**Hahn, Hessen, Margolis & Ryan are special or general counsel for various textile concerns including, among others, Amerotron Co.; Botany Industries, Inc.; Cantor Greenspan Co., Inc.; Chatham Mfg. Co.; Crompton-Richmond Co., Inc.; Fabrex Corp.; Frank Ix and Sons; J. P. Maguire & Co., Inc.; Reeves Brothers, Inc.; and James Talcott, Inc.

until March 3, 1960, to change procedures to conform with the new Federal law. However, since yarns, fibers, or fabrics being sold this summer and fall may be manufactured and sold to consumers in a finished form after March 3, 1960, manufacturers undoubtedly will require their suppliers to immediately comply with the provisions of the Act.

PRODUCTS COVERED

The Act applies to any fiber, yarn, or fabric (except wool), and any household textile article made therefrom, whether in the finished or unfinished state, used or intended for use in household textile articles, all of which are called "textile fiber products."

The term "household textile articles" means:

> . . . articles of wearing apparel, costumes and accessories, draperies, floor coverings, furnishings, beddings, and other textile goods of a type customarily used in a household regardless of where used in fact.

F.T.C. Rule 44 is explicit as to the products covered, and includes articles of wearing apparel; handkerchiefs; scarves; beddings; floor coverings; curtains and draperies; furniture slip covers; towels, washcloths, and dishcloths; tablecloths, napkins, and doilies; and all fibers, yarns, and fabrics (except packaging ribbons).

Section 12(a) of the Act specifically excludes these products: upholstery stuffing; outer coverings of furniture, mattresses, and box springs; linings, interlinings, filling or padding incorporated primarily for structural purposes and not for warmth; stiffenings, trimmings, facings, or interfacings; backings for use under floor coverings; sewing threads; bandages, surgical dressings, and other products, the labeling of which is subject to the Federal Food, Drug & Cosmetic Act; waste materials not intended for use in a textile product; textile products incorporated in shoes or overshoes or similar outer footwear; textile products incorporated in headwear, handbags, luggage, brushes, lampshades, toys, or diapers.

In addition, F.T.C. Rule 45 excludes these from the operation of the Act: belts, suspenders, armbands, permanently knotted neckties, garters, sanitary belts, labels, book cloth, artists' canvases, tapestry cloth and shoelaces; all textile products manufactured by operators of company stores sold exclusively to their own employees as ultimate consumers; coated fabrics and those portions of textile products made of coated fabrics; secondhand household textile articles which are discernably secondhand or which are so marked; and nonwoven products of a disposable nature intended for one-time use only.

It is important to note, however, that if a representation of the fiber content is made as to any product excluded under the Act or the Rules, then such representation must be made correctly.

Any person who imports, introduces in commerce, sells, offers, or advertises for sale a textile fiber product is required to comply with the Act

PERSONS COVERED

Any person who imports, introduces in commerce, sells, offers, or advertises for sale a textile fiber product is required to comply with the Act. Until the textile product has been produced in the form intended for sale to the ultimate consumer it is not necessary to tag or label such product provided that the required information is contained on the contract or invoice. In other words, members of the industry (such as mills and converters selling to cutters) who do not sell their products in the form for use by the consumer, need not use tags or labels if they mark their contracts or invoices showing the required information. However, if tags or labels are used, they must bear the fiber content information required by the law.

Specifically excluded from the Act are common carriers, processers or finishers performing a contract for the account of a person subject to the Act, and products sold for export.

INFORMATION REQUIRED

Basically, the information required to be shown upon the label, or authorized substitute therefor, of textile fiber products includes (1) the generic names and percentages by weight of the constituent fibers present (exclusive of permissive ornamentation) in amounts of more than 5% in order of predominance by weight; (2) the name, or registered identification number, of the manufacturer or seller of the textile product; and (3) if the textile product is imported, the name of the country of origin where such product was principally prepared.

F. T. C. Rule 7 lists sixteen generic names with their chemical definitions* and Rule 8 provides procedures for establishing new generic names.

In disclosing the constituent fibers, no fibers present in the amount of 5% or less of the total fiber weight may be designated by their generic names, but must be designated as "other fiber" or "other fibers." This is intended to avoid a situation where a label might contain six or seven different generic names.

Nondeceptive fiber trademarks may be used on a label in conjunction with the generic name but may not be used alone. For example:

WRONG	RIGHT
Dacron 55%	Polyester Fiber-Dacron 55%
Wool 45%	Wool 45%

A 3% tolerance is allowed on products which contain more than

*The generic names and their definitions are given in the chart, "Trademarks of Man-Made Fibers and Yarns," which appears elsewhere in this issue of TEXTILE INDUSTRIES.—*The Editors.*

one fiber. For example, where the label indicates that a particular fiber is present in the amount of 40%, the amount of such fiber present may vary from 37% to 43% of the total fiber weight of such product. No tolerance is permitted when a product is composed entirely of one fiber, except as to permissive ornamentation where the product is represented to be composed of one fiber "exclusive of ornamentation."

Where the textile product contains fiber ornamentation not exceeding 5% of the total weight or 15% of the surface area, and the stated percentages are exclusive of such ornamentation, the label or any invoice used in lieu thereof shall contain a phrase or statement showing such fact and the fiber content of the ornamentation may be disclosed. For example:

60% Cotton
40% Rayon
Exclusive of Ornamentation
or
All Cotton
Exclusive of Ornamentation
or
100% Rayon
Exclusive of 3% Silk Ornamentation

Rule 27 permits either the word "All" or the term "100%" to be used if the textile fiber product is comprised wholly of one fiber, other than any fiber ornamentation, decoration, elastic, or trimming as to which fiber content disclosure is not required. For example:

100% Cotton
or
All Rayon, Exclusive of Ornamentation
or
All Acetate, Exclusive of Decoration

It is just as important to know what cannot be stated as it is important to know what must be contained on a label. Rule 6(b) and (c) and Rule 9 deal extensively with the relationship between textiles and furs. Where a textile product contains the hair or fiber of a fur-bearing animal in excess of 5% of the total weight of the product the terms "fiber," "hair," or "blend" may be used interchangeably, *provided* the name of the animal producing such fiber is used in conjunction therewith. For example:

80% Rabbit Hair
20% Nylon
or
80% Silk
20% Mink Fiber

The term "fur fiber" may be used in place of "fiber," "hair," or "blend" if no representation is made as to the animal or animals from which the fiber was obtained. For example:

60% Cotton
40% Fur Fiber
or
50% Nylon
30% Mink Hair
20% Fur Fiber

Names, words, or other symbols used to describe textile products which simulate fur-bearing animals may not be used in labeling or advertising unless the textile product does in fact contain the particular fur within the meaning of the Fur Products Labeling Act. Such terms as "guardhair," "underfur," and "mutation" are not permitted.

Nondeceptive use of animal names or symbols is permitted, as for example "kitten soft," "Bear Brand," etc.

Where only one end of a cloth label is sewn to the product, so that both sides are readily accessible to the purchaser, the required fiber content information may appear on the reverse side if the front clearly shows the wording "Fiber Content on Reverse Side."

A label need not be affixed to each textile product contained in a package if (1) the products are intended for sale to the consumer in the same package, (2) the package has affixed to it a label bearing the required information, and (3) the required information affixed to the package as a whole is equally applicable with respect to each product contained therein.

Where it is common practice to break the package and sell individual products therefrom, each individual product must be labeled. Where products are sold in

Members of the industry selling textile fiber products, even if not to consumers, must mark their invoices or contracts according to the law and if they use labels must do so correctly

ABOUT THE LABELS

The label must be conspicuously affixed to the product—or, where permitted, its package or container—in a secure manner and shall be of such durability as to remain attached when sold and delivered to the ultimate consumer. The required information must be conspicuously and separately set out on the same side of the label so as to be clearly legible and readily accessible to the prospective purchaser, and all parts of the fiber content must appear in type or lettering of equal size.

The required name, or registered identification number, may appear on the reverse side of the label if it is conspicuous and accessible, or may be conspicuously set out on a separate label which is prominently displayed in close proximity to the label containing the other required information.

units of different fiber content the required information must be affixed to each. However, where garments, wearing apparel, or other products are handled in pairs of the same fiber content, only one unit of the pair must be labeled when sold to the ultimate consumer.

SPECIAL INDUSTRY RULES

F. T. C. Rules 10, 11, 12, 13, 14, 22, 23, and 24 deal with individual situations where particular members of the industry are required to supply additional information. Each particular rule will be briefly considered separately.

Elastic Yarn or Material. Where a textile product is made entirely of elastic material (except minor non-elastic structural parts) it must be identified as to the percentage of elastomer, together with

the percentage of all textile coverings of the elastomer and all other yarns or materials used therein.

Where the product is made partly of elastic material and partly of other fabric, the fiber content of the non-elastic portion must be disclosed by percentages. But the elastic material may be disclosed by describing the material as elastic, followed by a listing in order of predominance by weight of the fibers used in such elastic, including the elastomer, without percentages. For example:

Front and back rigid sections:
50% Acetate,
50% Cotton.
Elastic: Rayon, cotton, nylon, rubber

Floor Coverings Containing Backings, Fillings, and Paddings. In listing the required fiber content, the disclosure must be made in such manner as to indicate that it relates only to the face, pile, or outer surface of the floor covering, and not to the backing, filling or padding which is exempted. For example:

100% Cotton Pile
or
Face-60% Rayon, 40% Cotton
or
Outer Surface-100% Wool

Trimmings. Rule 12 specifically defines trimmings as including (1) rick-rack, tape, belting, binding, braid, labels, collars, cuffs, wrist, leg, and waist bands, gussets, gores, welts, and findings, including superimposed garters in hosiery, and elastic materials and threads inserted or added to the product in minor proportion for structural purposes; (2) decorative trim; and (3) decorative patterns or designs which are an integral part of the fabric out of which the household textile article is made, provided that such decorative trim or pattern does not exceed 15% of the surface area.

If no representation is made as to the fiber content of the decorative trim or decoration, the fiber content of the basic fabric must be followed by the statement "Exclusive of Decoration."

Remnants. In disclosing the required fiber content as to remnants which are unknown or undeterminable, either the fiber content may be designated, or where such remnants are displayed for sale at retail, a conspicuous sign may, in lieu of individual labeling, be used in immediate conjunction with such display, stating that the goods are "remnants of undetermined fiber content." Where textile products are made of such remnants, the products may be disclosed as "made of remnants of undetermined fiber content."

Where remnants are handled in packages and are all of the same known fiber content, the individual remnants need not be labeled if the packages are labeled with the required information. However, if the remnant is taken from the package to be sold separately then it must be labeled, or if displayed for sale at retail, a conspicuous sign may be used in lieu thereof.

Products Containing Unknown Fibers. Where a textile product is made from miscellaneous scraps, rags, odd lots, textile by-products, or waste material of undeterminable fiber content, the required disclosure may indicate that such product is composed of miscellaneous scraps, rags, odd lots, textile by-products, or waste materials, as the case may be, of unknown or undetermined content. For example:

Made of miscellaneous scraps
of undetermined fiber content

Products Containing Linings, Interlinings, Fillings, and Paddings. The fiber content must be set forth separately and distinctly if such linings, interlinings, fillings, or paddings are incorporated in the product for warmth rather than structural purposes, or if any representation is made as to its fiber content. For example:

Covering: 100% Rayon
Filling: 100% Cotton

Products Containing Superimposed or Added Fibers. Where a textile product is made wholly of one fiber or a blend of fibers, with the exception of an additional fiber in minor proportion superimposed or added in separate and distinct areas for reinforcing or other useful purposes, the product may be designated according to the fiber content of the principal fiber or blend. An exception must name the superimposed fiber, giving the percentage thereof in relation to the total weight of the principal fiber or blend and indicating the area which contains the superimposed or added fiber. For example:

55% Cotton
45% Rayon
Except 5% nylon added to toe and heel
or
All cotton except 1% nylon added to neckband

Pile Fabrics and Products Composed Thereof. The fiber content may be stated on the label in such segregated form as will show the fiber content of the face or pile and of the back, with respective percentages, provided that in such disclosure the percentages be given in such manner as will show the ratio between the face and back. For example:

100% Nylon Pile
100% Cotton Back
(Pile constitutes 60% of fabric and back 40%)
or
Face—60% Rayon, 40% Nylon
Back—70% Cotton, 30% Rayon
(Face constitutes 60% of fabric and back 40%)

A seller is absolved of misbranding if he received a guaranty in good faith; obviously, customers will insist that mills furnish fiber-content guaranties

MARKING OF SAMPLES

Where samples, swatches, or specimens are less than 2 square inches in area they need not be labeled if accompanying promotional matter clearly discloses the information otherwise required. Samples in excess of 2 square

inches also need not be labeled if they are keyed to a catalog to which reference is necessary in order to complete the sale and which conspicuously discloses the required information.

GUARANTIES

No guaranty is required to be given under the Act. However, no person shall be guilty of an unlawful act if he establishes receipt of a guaranty in good faith. Obviously, to be relieved of liability for misbranding, customers will insist upon their suppliers furnishing a guaranty.

The guaranty must either be (1) a separate guaranty specifically designating the textile product guaranteed, which may be on the invoice or contract relating thereto; or (2) a continuing guaranty given by the seller to the buyer applicable to all textile fiber products sold or to be sold to such buyer; or (3) a continuing guaranty filed with the F. T. C. applicable to all textile fiber products handled by the guarantor.

Rules 36, 37, and 38 set forth the particular language suggested by the F. T. C. for each form of guaranty.

KEEPING RECORDS

Every manufacturer of a textile product subject to the Act (whether or not a guaranty has been given or received) must keep appropriate records showing the fiber content for at least three years. Any persons substituting a label must keep such records as will show the information set forth on the label that he removed and the name of the person from whom such product was received.

Most members of the industry will be required to comply with the Textile Fiber Products Identification Act. The retailer, manufacturer, jobber, converter, and mill must understand the nature and scope of the Act and Rules in order to comply with their provisions.

At the least, members of the industry selling textile fiber products, even if not to consumers, must mark their invoices or contracts according to the law and if they use labels must do so correctly. We, therefore, urge that each reader affected by the Act become thoroughly conversant with its provisions.

A limited supply of reprints of this article is available. Write to The Editors, TEXTILE INDUSTRIES, *806 Peachtree St., N.E., Atlanta 8, Ga.*

"Fabulous fabrics of the future"

by Henry E. Millson*
Dyes Department
American Cyanamid Co.

■ ALTHOUGH it is impossible to predict all the new types of fabrics we'll be wearing in the future, I should like to indulge in some "blue sky" thinking about future fabrics which will be designed with great skill and out of newly acquired fundamental knowledge, to combine the optimum degree of comfort, performance and style appeal.

Demand for new types of fabric will be stimulated by several factors: the ever-increasing travel of Americans to areas of widely differing climates; the great interest in year-round sports and other outdoor activities; the special requirements of an increasing population of older people.

Comfort. People want light-weight clothes which are warm in winter and cool in summer. Younger people want light weight because it permits maximum freedom of action in their strenuous activities. Older people want light weight because it lessens the luggage problem in travel and because it puts less of a burden on their frames as they become increasingly frail with age.

To meet the needs of older people for warm clothing and to meet the varying needs of other people for clothing with various heat conservation or heat dissipation characteristics, it is conceivable that an outer garment will have thin interchangeable linings.

One lining will be treated with chemicals or finishes to absorb radiant energy and convert it into heat.

The other lining will be treated with finishes or chemicals which reflect radiant energy from external sources.

The proper choice of fibers and the skillful designing of fabric constructions will play a vital role in this composite garment.

Performance. Apparel fabrics of the future will combine light weight with great durability, will have excellent dimensional stability, and will require minimum care. They will be resistant to mildew, will not retain body odors, and will be germ repellent. They will retain pleats and trouser creases but will be highly wrinkle resistant. Aqueous or oily stains will not deface these fabrics and dirt will not adhere to them.

It may be that some utilitarian and perhaps even some dress clothing will be made from paper or from bonded rather than woven or knitted fibers. Such clothing will be inexpensive and will be discarded after wearing a few times.

Style. Women have always been highly style-conscious, and in recent years men have also become much more aware of style, particularly in leisure wear.

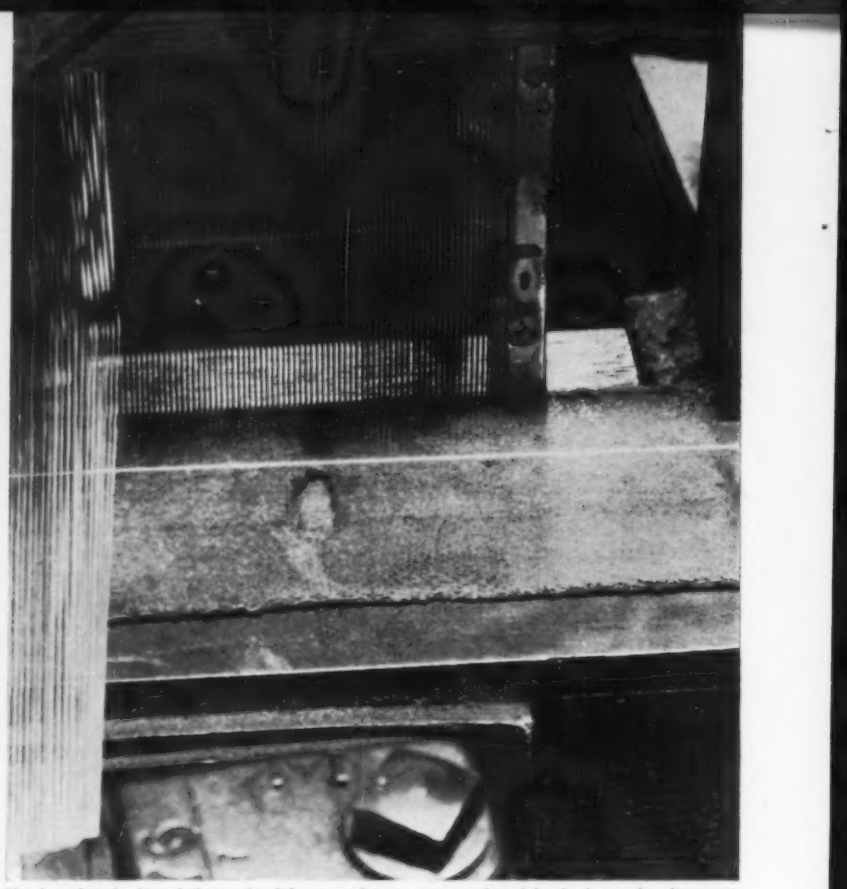
New fibers, new dyes, and new finishes are fast making possible novelty and fashion effects of great appeal, while at the same time they contribute many desired benefits to staple types of men's apparel.

Fabulous fabrics of the future will integrate comfort, performance, and style to a degree undreamed-of before scientific research of a high order entered actively into the textile field.

*Reprinted from "Dyelines," Vol. 4, No. 3, a publication of American Cyanamid Co.

If you plan to weave the filaments too...

Expect some surprises in the extra fixing care you will need. Here are some basic points to be mastered



The harmless looking hole in the felt race plate cover, produced by bad temple alignment, and the bruised box leather are sufficient to break filament yarns of the finer deniers.

Staff prepared Exclusive

The mill men who have worked with us in preparing this article have been quite frank in pointing out difficulties arising from mixing spun weaving with filament weaving, have discussed with us at length the measures needed to offset such difficulties, and have outlined the minimal conditions set forth herein. So, weavers who intend to enter multi-filament weaving must expect to encounter situations very much like those entered here. Warp preparation, being rather unlimited itself, has been omitted.—The Editors

THE MANUFACTURER of basic cotton goods, or of spun fabrics in general, who wishes to add filament fabrics to his selection must master a great number of new techniques and hurdle quite an array of obstacles if he is to stay competitive with the men who make filament weaving their business. Two such obstacles are machinery and personnel.

Easily the toughest of the assignments is that of training the weave room force to the new tasks, for among them are those who are temperamentally unsuited for filament operations — those who are unable, without special and often painful effort, to put forth the planning and special effort to produce first-quality filament goods. And this category includes its quota of supervisors.

In general, only the most exacting craftsmen will make the grade, for there is something in the way roughened hands must be powdered with starch before tying a knot, the frequency with which hands must be cleaned, the care that must be exercised in wiping hand rails, buffing metal surfaces, keeping warp ends uncrossed, etc., that leaves the less discriminating person longing for a good old cotton job.

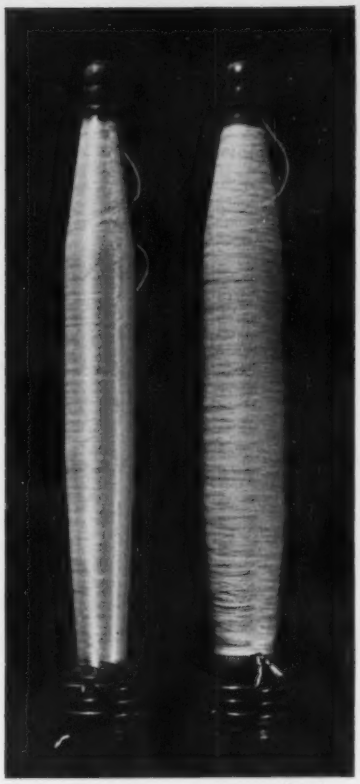
There is little difference between the looms required for filament weaving and those used for weaving spuns. But those differences are important ones and will not be ignored if quality fabrics are produced efficiently. And while there still are filament fabrics produced with unmodified cotton looms, they are usually not of garment quality.

Bear in mind that the first synthetics were woven on the looms then in use, and that the present rayon looms have been developed to correct for difficulties encountered in weaving the filaments on conventional cotton looms. The smooth fabrics were easily distorted and could not stand the scuffing the loom gave it.

The silk-type take-up motion relieved that situation, and temples have been developed that handle the cloth firmly but gently. Other refinements have been added, but the real progress is in loom maintenance procedures.

Room Temperatures and Humidities. Where filaments are being run in the presence of spuns, management naturally seeks to strike

This selvage is not timed to weave with the body yarns. The result is a conflict between selvage and shuttle that will, among other things, do damage to both selvage and filling.



Filament nylon yarns can warp, bend, or crush conventional hollow filling quill.

a balance that will give the best results for the combination being produced. Naturally, also, management is prone to let the most important operation dictate the conditions used. In such circumstances, either the spuns or the filaments will suffer, for the two require different temperatures and humidities.

High humidities often used with cotton warps can set up boxing difficulties in the filament looms, can lead to gummy warps, and can cause selvages to tear up. On the other hand, if the humidity is lowered too far, static builds up to combine with the selvage and boxing difficulties (gumminess disappears) encountered when the conditions were too wet. By and large the filaments need lower temperatures and less moisture than the spuns. Operating conditions are suggested in detail by the filament manufacturers, and they are too numerous to be treated here.

Fly Contamination. The free fibers from spun warps find it relatively easy to lodge in a filament warp. As a result some filament damage will ensue regardless of the size of the yarns, and the damage can become prohibitive in the very fine counts. This alone would limit the fabrics that could be produced in the same room.

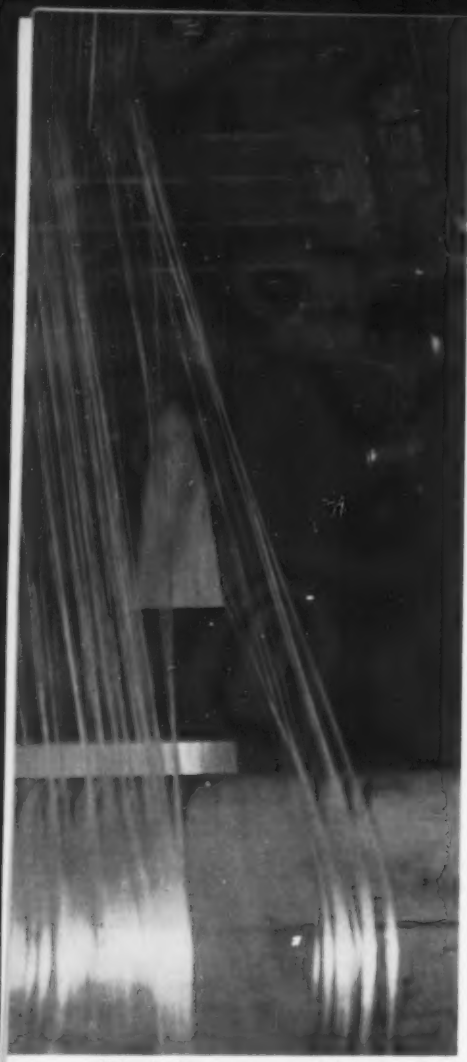
Even if the two systems could be separated in weaving, a most desirable condition, filament breakage can result from contamination in warp preparation. Sometimes, whenever later contamination can be avoided, warpers, creels, and slashers are blown off and washed before filaments are run through them. But even these measures may not assure that 30-denier yarn, or finer, will not pick up enough fly to snarl and break filaments when the loom begins to pluck at it.

Fortunately, there is a compound available that, when applied to filaments warps, assists in getting bad areas of broken filaments through the loom by sealing them down and supplying lubrication. The same compound is used to facilitate tying-in.

If spuns and filaments simply must be run in the same room, the advice is to group the filaments. This move permits operating with a minimum of skilled people, simplifies cleaning, etc. If it is possible to screen off that portion of the weave room, then conditions become decidedly more favorable.

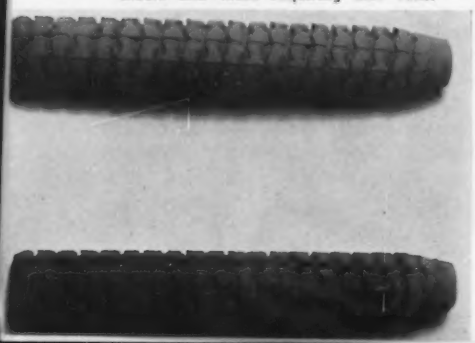
Shuttle Care. When properly maintained, the dogwood shuttle is not merely smooth, it is polished. And this finish is a product of sandpaper, vigorously applied, followed by an application of a dressing agent composed roughly of 50 per cent white shellac and linseed oil (some use 20-weight motor oil). The compound is rubbed onto the shuttle much as one applies shoe polish—sparingly.

If one wishes to stay out of trouble, he never smooths such a shuttle with emery cloth, for bits of the abrasive become imbedded in the shuttle surface to act as tiny knives. These, ordinarily invisible to the unaided eye, will clip merrily away at filaments and



Taboo! Not even a witchdoctor could coax the last few cuts from this warp free of seconds. As the warp runs out, the crossed condition is aggravated, ends begin to break and cause warp stops (which in turn cause set marks), and efficiency all but dies. Such warps are difficult to lease properly for warp replacement and will require additional smashing on the new warp. Note also the collection of fly on the parts below the ends.

Temple rolls of a relatively new design hold filament fabrics firmly, even against the shock from the lay motion. Temple roll replacement at warp out is routine in some plants, for the rolls cost little compared to the damage faulty ones can do. The rolls shown here are not recommended for sheers, but they can be used for weights between sheers and those requiring burr rolls.



practically defy discovery. They *may* be felt with the hands if they are passed over the surface lightly and slowly.

A fine garnet paper, 5/0 or 6/0, is often used. This leaves the wood sufficiently smooth and free of grit. Some of the more demanding operators follow this sanding with an application of crocus cloth, leaving an almost mirror finish before the shellac-oil agent is wiped on.

It is pointed out from mill to mill that the shellac-oil mix is to be used with discretion, and that discretion is born the moment a fixer slops or pours the finish onto a shuttle and tries to buff it dry. Too much of it simply will not wipe off properly, will sag, wrinkle, or refuse to dry.

Shake the mixture well, dip into it two fingers wrapped with a layer of soft cloth, and apply it evenly in the thinnest of coats. Then before it has time to harden or grow tacky, buff it with a second soft but dry cloth. Dressed this way, the shuttle assumes a soft sheen and is ready for immediate use.

The polishing frequency will vary from firm to firm, but it is not uncommon to find some plants following a 24-hour schedule for all-filament fabrics. If filament warp and spun fillings are involved, then three polishings per week (such as Monday, Wednesday, and Friday) may be sufficient.

After all, it is the degree of polish desired that determines the effort put forth to achieve it, and some plants consider polish important enough to request fixers to let other duties go, flags included, for the thirty to forty-five minutes needed to go over their assignments on schedule. Opinion is divided on molded shuttle polishing.

A daily check of shuttle springs and quill alignment keeps down the shiners and the broken picks —if poor conditions are corrected as they are found. Otherwise, the inspection is worth little more than a gesture. This may seem a bit rigid as schedules go, but it helps keep the seconds subdued.

It is impossible to control fabric quality adequately with arrangements such as this. So, while such temporary arrangements may work for a while, they are not advisable as systems. The bobbin finish will soon groove and begin to apply even more tension to yarn that is already too tight. The angles through which these ends approach and leave the bobbin are sufficient to change tension and hence the fabric face, and there is enough fly to cause a breakout of some magnitude. When it becomes necessary to lead ends across the warp face, lead them downward to the loom girt and over to the point at which they can re-enter the warp at right angles. Were this loom girt reversed, bobbin rings could be clipped (opened slightly and forced over girt flanges) to the member to act as eyes until corrective action can be taken.

Shedding Motion. Oftentimes, filling breaks near the selvages exasperate everyone because the breaks appear to be coming from nowhere. At such times it is well to check the harness settings for sheds that are too open, for undue warp tension from that source will produce that pattern of broken filling.

Since filament yarns are sensitive to bruising, warp-to-shuttle interference has to be kept to an absolute minimum. The spun-yarn weaver is accustomed to warps that are not easily shuttle marked and which remain composed while shuttles tear into and out of their selvages. But the filament weaver knows such is taboo and daily inspects harness cords, sheaves, springs, and twine to prevent such conflicts.

Sheaves that are reluctant to turn leave black marks on their harness cords and dust deposits where they are rubbing other sheaves or are wearing at the eye. Harness twines that are about to fail appear ready to explode, and bouncing harnesses suggest that they are not controlled firmly by their springs. Frayed or damaged cords are replaced before they fail and tear up at least one shed.

Generally, the filaments are woven with the yarn path from the whip roll through the harnesses and to the take-up roll forming a straight line. This is contrary to cotton weaving in which the whip roll and/or take-up roll position is altered (lifted or lowered) to give more or less fabric "cover." The filaments are "nursed" from whip roll to take-up roll with the least bruising and most uniform tension possible (some plants set sheds to open to a mark on the reed). The nature of the yarns demands such "indulgence" or they will refuse to lie evenly side by side in both filling and warp. Such uniformity can be effected only by looms that are ideally set and maintained.

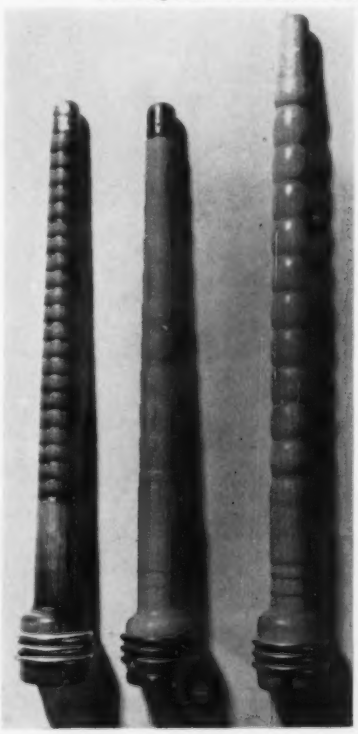
Race plates are covered with corduroy, felt, or some similar fabric to cushion the bottom warp shed as the shuttle crosses it. The covering costs so little that it is replaced at the slightest provocation, sometimes with each warp change. Some plants operate without such protection, however, although the consensus is that it is necessary to quality.

Theoretically, shed settings are about the same for both spun and filament warps. But whereas the spun warp setting can vary rather widely before real damage ensues, the filament warp will cry out almost the instant a setting slips.

Here again the difference lies in the natures of the two yarns; with the great uniformity present in filaments they naturally must remain in position if they are to remain inconspicuous. So a filament warp being woven with happy - go - lucky shedding will have its picks arranged in the same riotous pattern.

To keep the warp tension to a minimum, the filament weaver will lift the top shed only about 1/8" above the front wall of his shuttle, and he will keep the bottom shed positioned about 1/16" above the race plate cover. This, with everything else in order, gives him uniform pick spacing, keeps cut filling to a minimum, and assures a predictable opening for the shuttle to slip through.

Lay and Reed Alignment. The constant and frequent shuttle inspections will turn up a badly aligned reed immediately. Nonetheless, every time a warp runs out the filament weaver usually

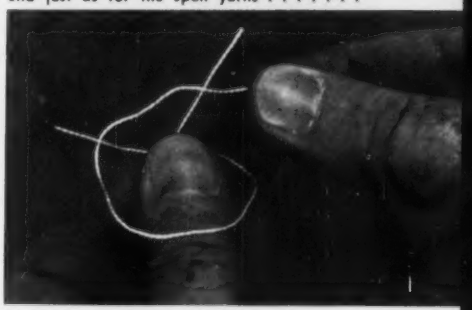


Each of these quills was designed for a special filling problem. The one to the left might well have come from a cotton weaving room, but in reality it was made for filament weaving. Between the grooves the lands taper slightly backward to offset the over-all taper and to give anchor to the yarn coils. The one in the center is used for coarse spun yarns (4s to 8s cotton) and is made without grooves. Instead, there is only a series of back-taper lands. The other one was designed to carry paper filling yarn.

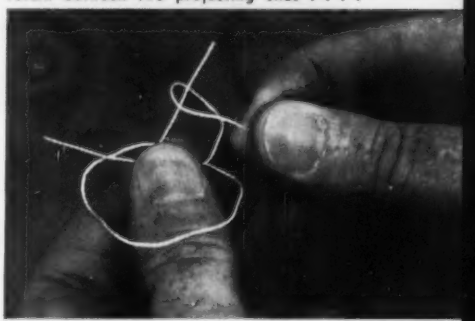
Courtesy Monticello Bobbin Co.

The smooth filaments slip across each other so easily that the conventional weaver's knot often fails. To avoid such slip knots, weavers resort to using a double loop ("wrapping it twice."), and one such approach is shown to the right. The yarn used in the pictures will hold a single-loop weaver's knot easily, but was chosen because it photographs well.

Cross right-hand end behind left-hand end just as for the spun yarns . . . . . .



Make conventional left-thumb loop and return between two projecting ends . . . .

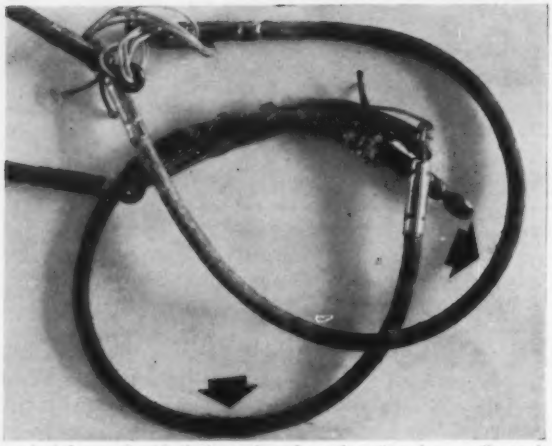


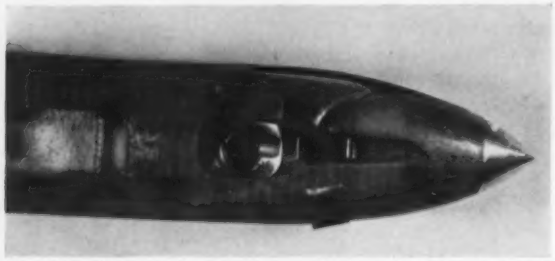
Reverse the second loop around the left-end . . . be sure loop is reversed. . . . . .

Push the left-hand end through the first loop, catch it under left thumb. . . . . .

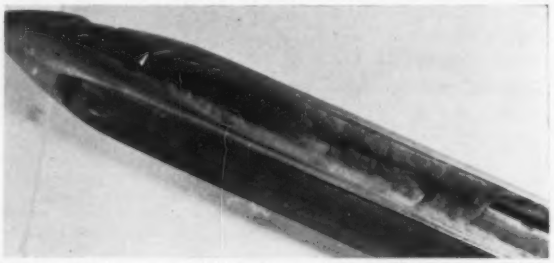
And draw the knot tight. This one does not slip, ties best on high-twist yarn.

A simple case of harness cord failure calling for immediate replacement to forestall warp damage. The cords to the right are marked (arrows) with dark smudges from dragging sheaves. Depending on the weave, skips, floats, or overshots result from this.

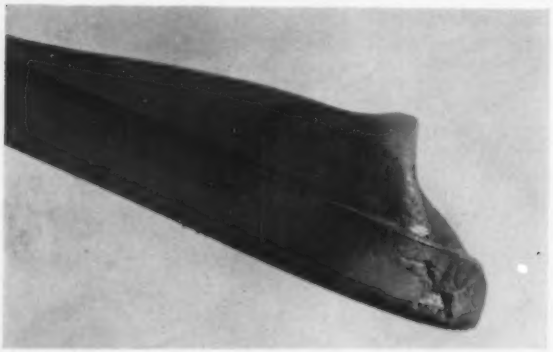




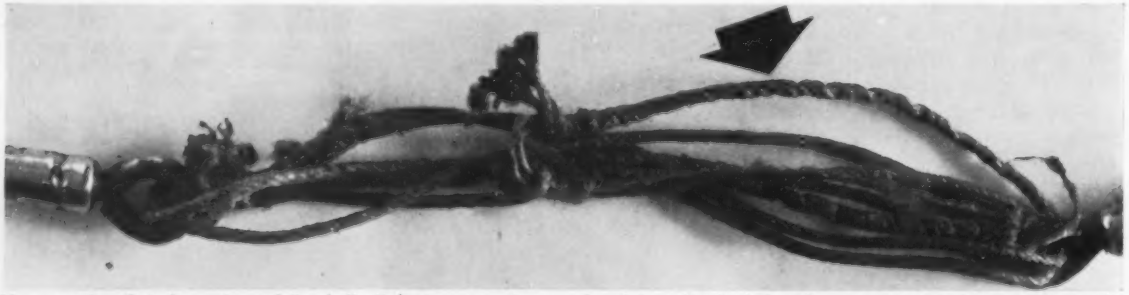
The duckbill struck this shuttle several times just to the right of its port. The damage, although slight, must be repaired or inevitable filament breakage ensues. The scar below the shuttle eye is sufficient to break the finer warp ends, definitely those up to 100 deniers and containing manufacturer's twist of 0.5 tpi.



This shuttle has been rubbing the reed, and efforts to smooth it properly left a big blotch where the grime was removed. Too, the fur is worn enough to merit replacement. Successful weaving demands that it be refurred, cleaned of all grime, sandpapered and finished, and the reed aligned to prevent further shuttle damage.



The leather in this picture and in the one to the right was never really in production. It was damaged while the loom was being "rocked," run without yarns, following an overhaul and was replaced to prevent broken filling. The filaments demand such.



Harness twine that shows signs of "exploding" (a term sometimes used to indicate ply failure pointed out by arrow) should be replaced immediately before harness setting is lost or, worse still, the twine breaks and lets harness end drop to damage warp yarns.

checks this condition and spends the necessary time to correct misaligned ones.

Likewise, box leather is maintained in prime condition. Any scar or sliver that can deflect a shuttle, cut a filament, or impart excessive tension is removed from the scene. Such measures include maintaining adequate clearance between leather and the bottom of the groove in the shuttle wall.

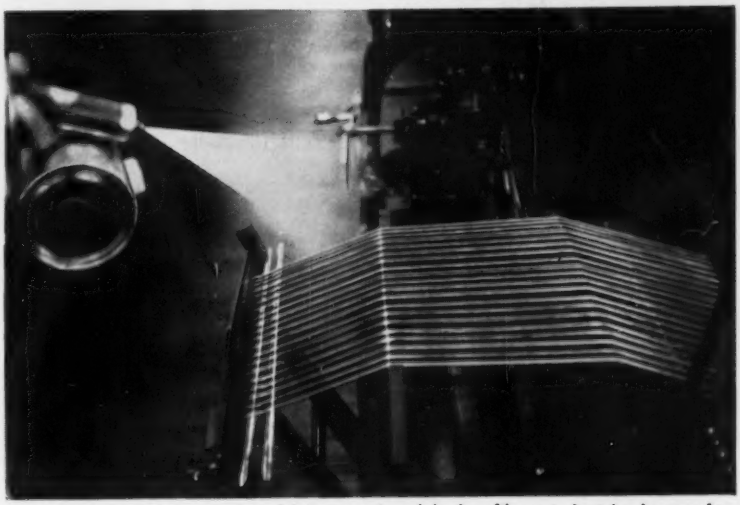
Stop Motions. Both warp and filling stop motions are engineered to allow the weaver to "call his shots" in stopping his looms after filling or warp failure. If, after the filling breaks, a loom is allowed to coast until the sheds separate and the pick wheel moves forward, a starting mark results. Brakes, stop motions, and drive mechanisms are tuned to prevent this.

The center fork is sufficient to sense a filling break and to relay the stop signal in time to prevent the above. But the fork itself will insert its own brand of cloth defect if it operates out of time. If the shuttle brushes the fork the disturbance creates a streak down the middle of the fabric.

On spun goods this conflict between the fork and the shuttle can go unnoticed at the loom and in the cloth room. Eventually, though, the weaver may find the front wall of the shuttle disappearing—worn away to a precise chamfer.

Pick Motions, Miscellaneous. Pick motions are maintained very much as the purists assert they should be—in precise time and with exact stroke and lug settings. This is not at all surprising, since every effort must be directed toward sending the shuttle down the warp corridor at exactly the right moment, having it deposit its pick nicely tensioned, and then to slide to a quick stop without jarring loose a few coils of filling or bouncing away from the picker.

Whatever loom parts the filaments touch are kept polished to minimize the friction. Whip rolls are washed or wiped free of all grit, dust, etc., and are kept buffed or sanded smooth. Even stop motion bars are buffed free of tiny grooves and polished with crocus cloth.



Applying compound prepared to lubricate and seal broken filaments in tying-in, weaving.

A reed that has been used on spun warps, however smooth the fabrics it produced may appear, should be looked upon with outright suspicion. Some firms simply will not use one on filaments if it has seen spun use, for the dents may be slightly sprung.

Naturally, these members are highly polished and usually contain as much air space as is possible. With the minimum fabric cover it is possible to give the filaments, dent spacing is vital for a bruised reed will leave its mark in the cloth it produces.

An immaculate battery is an asset, and if filament yarns are to be used exclusively an anti-sloughing device should be installed near the bobbin tips. Metal transfer forks will cut or bruise filling unless they are wrapped. There are forks designed to use foam rubber for that purpose.

There are filament fabrics to be woven with a minimum of the care given to the best of the filament goods. These may be woven alongside cottons, using cotton loom fixing techniques and attended by the same weavers who look after the cottons. But such fabrics still bring problems in quilling, knotting, beaming, warping, and slashing.

Nylon. One of the synthetics, nylon, merits special attention, for it offers special problems in packaging. There is an adage among mill men that it has a memory, that it insists on retaining a relaxed state that it sets for itself at the time its very memory is formed. No matter how long, they say, nylon is kept under tension, it remembers its original length and exerts unending force in trying to recover it.

Thus, mill men have learned not to wrap it on the wooden-barrel beams used for cottons, for the tension needed to wrap it firmly accumulates with each turn of the beam until finally the total force is too much for a hollow wooden member. In storage, beam barrels have simply collapsed, and beam heads have been crowded right off the barrels.

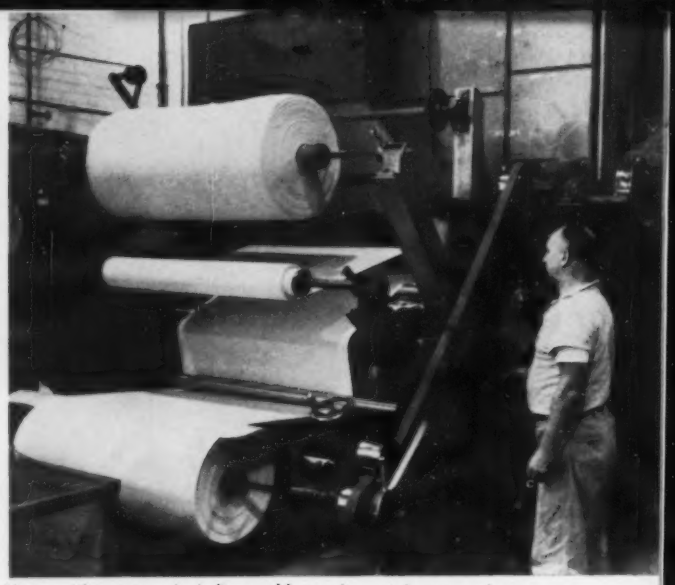
The best types of wooden spools have been known to fail in twister creels, and filling quills have suffered distortions. As one mill man chortled: "None of our quill used for spuns collapsed under nylon, but some of them grew mighty crooked."

The solutions? Use metal beams made to stand the bending pressures. Ditto for bobbins, and use solid quills. While doing this, observe a final note of caution from experience: "Keep tension to an absolute minimum."

Nylon weaves nicely, but in doing so it leaves behind marks of its passing. In fact, it stands weaving abrasion so well that whatever rubs against it disappears. So, be prepared to see stainless steel reeds and heddles simply wear out.

Survival in a changing market

Fair Lawn Finishing Co., dyers and finishers of synthetic fabrics and blends, stresses process development, versatility, and modernization



Heat setting range is indispensable equipment in processing synthetic fabrics and blends. Heating cycle, adjusted to the specific fibers in the blend, tends to impart dimensional stability and helps to prevent the formation of permanent creases in later processing.

Staff prepared Exclusive

PERHAPS the most volatile of textile markets is the women's wear field, in which new fabric blends, designs, and textures are only a few of the expected seasonal developments. To survive in such an industry, where change is the predominant theme, a finishing plant must react quickly to market changes that are often unforeseen, and be prepared as well to introduce processes and finishes of its own development.

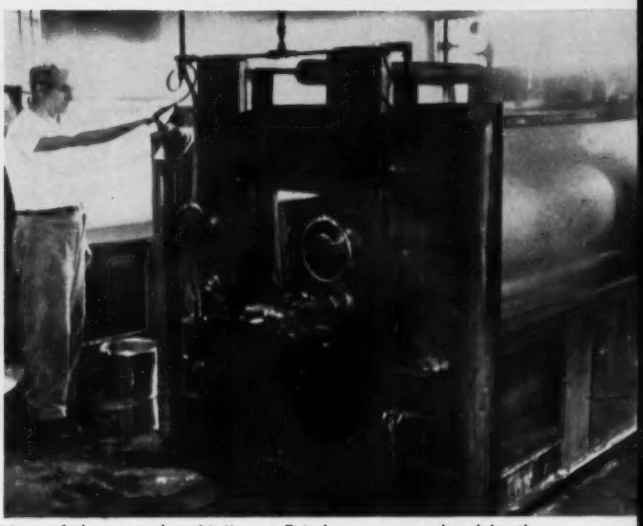
The Fair Lawn Finishing Co., Fair Lawn, N. J., has shaped its operating policies to meet these two major objectives. Over the years, it has equipped its one-story plant with a diversity of equipment, much of it of its own design, for dyeing and finishing fabrics and blends requiring conventional or specialized treatments. And as insurance against the eventual saturation or decline of fabric lines, the company has continually sought to develop processes for new fabric qualities. Fair Lawn's aggressive development program, which has produced a number of "firsts," including the development of processing techniques for fabrics of Arnel, is rather simply summarized by Weldon C. Helmus, president:

"It is more challenging to be a pioneer than to follow the leader," he emphasizes. "We prefer to be first in developing processes for new fabrics and fabric blends, particularly if they present difficulties. We have found that this policy brings faster and better results than when you are forced to imitate fabric lines that have already hit the market."

That is not to say, however, that Fair Lawn attempts to process every fabric type, even though the plant has a built-in flexibility to do so. On the other hand, it has deliberately placed some limitations on fabric categories, taking on only those which fall within the scope of its experience. Its accumulated know-how is perhaps heaviest in processing fabrics and blends in a broad range of textured qualities, which require more exacting techniques for achievement of hand and appearance. Yet to consider Fair Lawn only as a

The laboratory assists the plant in developing finishes and color lines for new fabrics and blends. The beaker dyeing machine above is of Fair Lawn's own design; it insures uniform dyeing and also releases a member of the laboratory staff for more important duties.

Dye becks are the workhorses in preparation and dyeing of synthetic fabrics and blends at Fair Lawn Finishing Co. After dyeing, whether on beck or jig, fabrics take a variety of finishing routes, depending on the fiber, texture of fabric, and the desired end result.



Many of the more than 20 jigs at Fair Lawn were enclosed by the plant's mechanical department, are used for high-temperature dyeing. Feature is live steam line which fills atmosphere of the jig with additional heat to help maintain the desired higher temperature.

specialist in this fabric category would be erroneous since flat goods comprise a sizeable percentage of the more than 25 million yards of fabrics processed annually.

At any given time, there are a number of development projects under way. These are held under wraps until the proper time has arrived for introduction of the fabric lines. More likely than not, some of the processes under development are for fabrics of fibers not yet commercially available. These projects are carried out as cooperative ventures between the plant, the fiber producers, and Fair Lawn's customers, in which each lends his particular skills and experience.

As a result of such aggressive programs, the fabrics processed by Fair Lawn today, in blended and unblended form, are comprised of all the currently popular fibers: acetate, rayon, Acrilan, Dacron, nylon, Orlon, and Arnel. As a general rule, all-cotton fabrics are not processed, and blends containing natural fibers are restricted to cotton and silk.

Fair Lawn's laboratory, which participates in process development, plays a big part in controlling quality of new fabric lines and finishes. Even after processes become standardized, fabric testing is not curtailed to any degree. It is also company policy to send out fabric samples periodically for objective testing, to determine if the laboratory's testing procedures are severe enough.

Versatility. To process a rather wide range of fabric blends, versatile equipment is required, as the accompanying photographs reveal. However, the photographs show only a cross section of Fair Lawn's equipment. Not shown are a high-speed singer, which singes both sides of the fabric and features a device for cutting off the flame when fabric speed is reduced beyond a specified point.

For scouring, there are two Hinnekins boil-off ranges, on which design the company holds patents. The machines enable scouring in a slack, open-width condition without floating or entanglement of fabric. There is also a tensionless range for open-width scouring, which can be combined, if neces-

Fair Lawn processes fabrics of almost unlimited designs and constructions, calling for a diversity in design and size of dye becks. The beck above is one of two claimed to be the largest in the country. The becks are used principally for textured fabric qualities.

Fair Lawn's volume of resin finishing for wash-and-wear markets is large enough to require tank-car purchasing of resins. Range at left is one of three high-speed units, two of which are equipped with 100-ft tenters, affording temperatures up to 400 F. A loop-type curer is arranged in tandem with range for continuous application and curing.

Most flat goods receive a calendering to complete the finishing routine. Fair Lawn's equipment includes calenders for variety of effects demanded by fickle women's wear market.

Data processing machines make available information on lots in process, inventory of grey goods, dye and chemical inventory, monthly summary of sales by style, quality, and color.

sary, with a padder and dryer for continuous operation.

Dyeing equipment is of two kinds: jigs, of enclosed construction, used generally for processing flat goods; and dyeing becks, of various design and size, used largely for processing textured qualities.

Even a most casual tour of the plant reveals an over-all management aim: to achieve high productivity with trouble-free processing at lowest possible operating cost. The equipment is up-to-date and of high speed, and arranged where feasible for combined operation. Many of the machines feature unique mechanical devices, developed by Fair Lawn's own mechanical staff, for ease of operation, or to overcome a processing problem. Just two examples of these are a cloth straightener, and a device for batching, which moves the fabric slightly from side to side, but to a precise degree, to prevent a build-up of edges on the roll and consequent creasing in the body of the fabric.

Nearness to Market a Major Advantage. Management places a great deal of emphasis on labor relations, for being located in a high-labor-cost area, a high rate of productivity per man hour must be maintained. While this can normally be achieved through modernization and adoption of advancing technologies, management believes that many intangible benefits are accrued from realistic labor - management meetings, which point up the importance of operators in maintaining production and quality.

It is standard policy at Fair Lawn to meet with union representatives whenever a new piece of equipment is to be purchased, to fully discuss its significance in terms of savings, increased production, and the like. Although a new piece of equipment usually results in some reduction of labor requirements for the particular process,

over the years Fair Lawn's operating force has remained at the same level.

While Fair Lawn's location imposes problems in overcoming the high cost of labor, it is of advantage in another important respect. Being less than an hour from the New York City market, rapid and close communication with its customers is possible. This advantage is particularly evident when a fabric quality suddenly dies in a changing market. Customer stylists and plant staff can meet at once for discussion and appropriate action.

Being an affiliate of a Swiss dyeing and finishing concern, with plants scattered across Europe, Fair Lawn has another advantage in that it can exchange practical know-how with the associated plants. It is a standard policy of the parent company to send key personnel to its plants regularly for extended study of processing techniques.

More of a specialist perhaps than a diversified dyer and finisher, Fair Lawn has always set its sights on specific segments of the women's wear market. Of the factors which are responsible for the company's strong competitive position, two stand out prominently: the practical know-how of plant specialists in developing processes for new blends; and a highly inventive engineering department which facilitates processing through building controls and devices of unique and practicable design.

Mill weaves wicker-type fabrics from paper

■ PAPER fabrics that look and feel like wood, and which have even greater pliability, are said to be improving the marketing outlook for manufacturers of woven wicker products.

Bleached and golden colored kraft papers are converted daily into thousands of different woven "fabrics" at the Sackner Products, Inc. plant in Grand Rapids, Mich. The fabrics are used by other manufacturers to fashion a variety of end products such as bathroom hampers, baby bassinets, and picnic baskets.

Before weaving, the kraft must be made into warp cords and cane fibers.

For warp, the paper is twisted 40 to 50 times per foot after slitting it into 1⅛-in. widths. Due to the uniform tensile properties of the sheet, there is virtually no tendency to break, and machine downtime is kept to a minimum.

For cane, or flat formed strands, the 1⅛-in. widths are folded four times after sizing. The size gives the paper better adhesion in the four folds. The general "formation" of the slit sheet, and the consistency of the sizing, helps produce smooth edges during the creasing operation. Smooth edges resist splitting and help provide extra strength for the fibers.

Warp cord and cane fibers are drawn together at the Jacquard loom where they are woven into one of the various patterns desired for a wicker type product.

When a colored wicker fabric is desired, golden kraft paper is dyed to the desired shade. Kraft is drawn through a dye-containing size solution to the forming rolls of the cane forming machine. The cane fibers are then wound on spools for use at the looms.

Warp cord is drawn into a shooter loom preparatory to weaving wicker-type fabrics. Each warp cord is made from kraft paper that has been slit into 1-⅛-in. strands and twisted 40 to 50 turns per foot.

"Filling" is imitation cane or flat strands made by folding the 1-⅛-in. wide strips of paper four times after sizing. The left end of the cane here is opened to its original sheet size to show the number of folds.

Inspecting a roll of imitation wicker for use in hampers is Arnold Parcels who is responsible for sales and engineering of all woven goods produced by Sackner Products.

SCOTT PAPER CO. PHOTOS

by Chester J. Dudzik
Universal Winding Co.
Exclusive

STRETCH YARN

What it is, how it's made, and where it's used

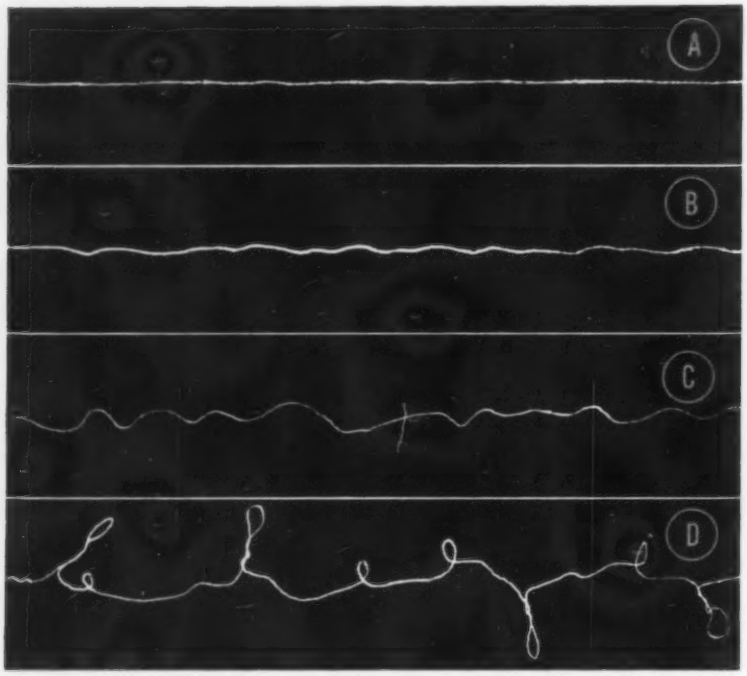


Figure 1. Individual nylon filament at different stages of the crimp-stretch phase. This extends from the completely stretched filament (a) to the completely relaxed filament (d).

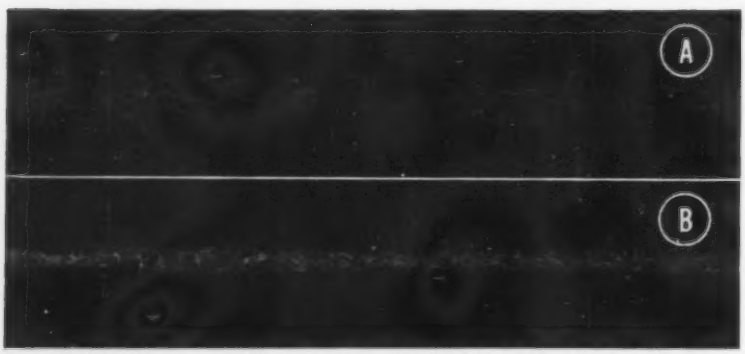


Figure 2. When two or more filaments are combined, curling takes place in different sections of the filaments and the yarn takes on a very homogeneous appearance, as shown at (a). This yarn can be made more homogeneous and have other qualities imparted to it by twisting, although this will reduce the stretch in the yarn. Such a yarn is shown at (b).

THE GENERIC term "stretch yarn" is most commonly used when reference is made to "Helanca" yarn. This yarn was developed by the Heberlein Co. A.G. prior to World War II. It was not widely distributed to the public until after the war. This development might well have been completed prior to this time had a thermosetting filament yarn been available.

The yarn was initially used for socks. In socks, as in many other applications, the yarn has two very important advantages. The first is that the handle of the fabric is considerably softer than fabric made from untreated filament nylon. The moisture absorption of the fabric is likewise increased considerably over that of filament nylon fabric.

The other advantage of this type of garment is that, because of its stretch characteristics, a very few sizes will cover the complete range necessary to satisfy the public. At first, socks were made in only one size, to cover the range of men's foot sizes. This was quite an optimistic step and one that didn't prove successful, so today socks are generally made in two or three sizes.

The inventory and style problems are thus reduced tremendously over those in existence in the spun sock field. The stretch of finished fabric is generally 100%.

What Makes It Stretch? The yarn receives its stretch characteristics from two separate and unrelated filament effects, i.e., torque and crimp. The dominant factor in the stretch and handle of the fabric is due to the latent torque which is set into the individual filaments of the yarn. This torque effect, when activated by releasing the load on the yarn, causes each of the individual filaments to assume the configuration

This is the first in a series of articles to be published in TEXTILE INDUSTRIES, in which the various methods for producing textured yarns will be discussed. The second article in the series will appear in an early issue.

shown in *Figure 1 (d)*. It can be seen that when the filament curls upon itself its final length is considerably smaller than the original length of the filament. This shrinkage is the potential stretch of the filament.

When two or more filaments are combined, as is the case of a multifilament strand, this curling takes place in different sections of the filaments and the yarn takes on a very homogeneous appearance, as shown in *Figure 2 (a)*. A close examination of one filament in this yarn shows that it reacts as does the filament shown in *Figure 1 (d)*. This yarn can be made more homogeneous and have other qualities imparted to it by twisting. This will generally, however, reduce the stretch in the yarn. *Figure 2 (b)* shows this yarn.

The secondary stretch in the yarn is achieved by the crimp which is heat set into it during processing. An individual filament is pictured in *Figure 1* at different stages of the crimp-stretch phase. This extends from the completely stretch filament (*a*) to the point where it is completely relaxed *(d)*. The amount of stretch due to each of the stretch factors is clearly shown.

Contrary to popular belief, it can be seen that the crimp in the yarn is not of a coil nature, but consists of irregular, randomly set curls or waves.

How It's Made. The original manner of processing stretch yarn is to subject it to the following basic steps:

1. Twist
2. Heat set
3. Untwist

Additional steps are actually necessary to prepare the yarn for twisting and for properly heat setting. The minimum number of steps to make a satisfactory yarn is five, while as many as nine steps are used to produce a quality yarn. The additional steps are those of redrawing, heat setting, and twisting in stages.

The yarn is twisted to a degree considerably greater than that done in twisting most yarns. For example, 70-denier nylon is twisted with approximately 75 turns per inch or 3,000 turns per meter. For best results and maximum uniformity, this twist is inserted in two steps.

The yarn is normally heat set in a high-pressure autoclave in a saturated steam atmosphere. The setting is achieved by the high temperature and the steam swelling. In order to accelerate this setting and achieve thorough yarn penetration, a high pressure and vacuum cycle is used.

Exactly what happens during heat setting is not known. The effect can, however, be described as occurring as follows:

The heat softens the individual filaments in the twisted condition, similar to annealing steel. The softening likewise reduces the yarn torque which developed during twisting. The ideal situation is to reduce this torque to zero and deaden the yarn completely. Upon cooling, the yarn then solidifies in its twisted state.

The degree of shrinkage which occurs during the heating of most thermoplastic yarns is an important factor in the yarn quality, its dye affinity, etc. As the twisted yarn heats, the outer layers on the package shrink freely, causing the outside of the package to become so dense that it prevents the steam and the heat from reaching the inside layers. A shrinkage gradient in the yarn therefore results from the outside to the inside of the package.

This yarn difference is further aggravated by the fact that the yarn on the barrel of the bobbin cannot freely shrink. The combination of these effects causes the yarn to dye unevenly. The shrinkage and dye affinity of the yarn can be made more uniform by redrawing the yarn onto another bobbin and then heat setting it again.

Various methods of improving uniformity without having to redraw and reheat the yarn have been developed. They consist essentially of permitting the yarn to shrink uniformly throughout the package, a condition which is accomplished by making the core of the yarn package collapsible. One of the simplest and least ex-

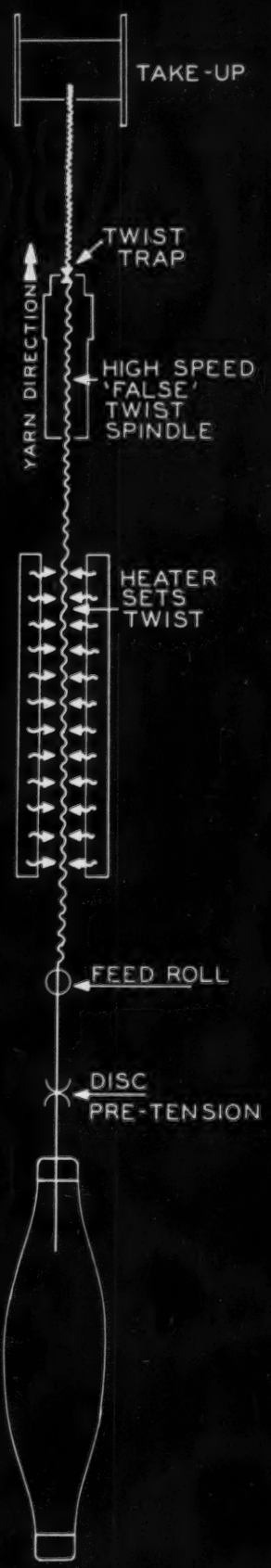


Figure 3. Schematic diagram of the production of Superloft stretch yarn in a single continuous operation, replacing five steps.

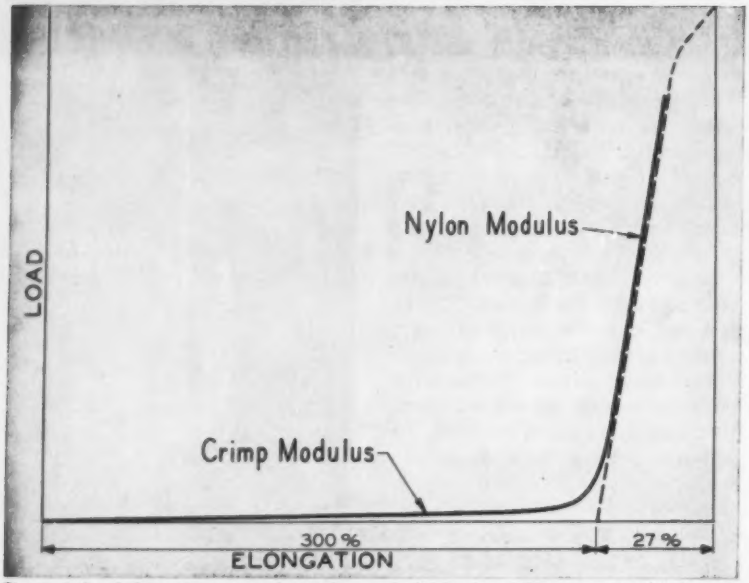


Figure 4. Load-elongation curve of stretch yarn (solid line) and filament nylon (dash line).

pensive ways of doing this is to wrap the barrel bobbin with a corrugated paper. The paper collapses as the yarn is heated and permits the yarn to shrink at the barrel of the bobbin. The yarn is then untwisted approximately the same number of turns per inch as were inserted initially.

The twist at which the machine is set is considerably less than the inserted twist because of the high twist shrinkage which resulted in the initial twisting stage. Based on the original length, however, the twist inserted in this operation is actually greater than that inserted in the original twisting stage. This is necessary to insure separating the filaments along the complete length of the yarn, thereby appreciating the maximum yarn stretch and handle.

In the untwisting operation, and because the filaments were stabilized in their twisted state, torque is inserted to each of the filaments which causes them to react as mentioned above. The filament crimp is likewise observed after this operation.

Machinery. Most of the stretch yarn made in the world today is produced on what is commonly called "false-twist" machinery. The main reason for this is that since all of the steps described above are completed in one operation, the cost of this processing is lower than the cost of the old method. Another very distinct advantage of false-twist yarn over the multi-step process is its uniformity of texture and dye affinity. This feature has increased and resulted in new uses for this yarn in weaving, tricot, and multi-feed knitting.

False-twist yarns produced in the United States are processed primarily on machinery manufactured by the Universal Winding Co. The yarn is most commonly referred to by the trade names "Superloft" or "Fluflon." A number of the throwsters have, however, chosen to call these yarns by other names.

The "Superloft" machine is shown diagramatically in *Figure 3.* All of the important elements of the machine are labeled. The direction in which the yarn moves is from the supply package over the feed roll, across the heater, through the spindle and to the take-up package. This path is indicated by arrows.

The main element of this machine is the false-twist spindle. Without elaborating on its design or operation, it will suffice to say that when this spindle is operating it maintains a twist below it and no twist above it. Thus, upon passing by the twist trap of the spindle, the twist which exists below the spindle is removed and only that which was originally in the yarn remains.

The yarn first passes from the supply package over a feed roll. The effect of the feed roll is to control the tension along the whole thread line. This is done by fixing the relative peripheral speeds of the feed roll and take-up roll. In order to shrink the yarn it is overfed into the system, i.e., the surface speed of the feed roll is greater than that of the cork roll. This results in relatively low tensions along the thread line. The tension across the heater is normally maintained at approximately 3 grams in the case of 70-denier yarn.

After cooling, the yarn enters the hollow spindle. The twist is removed from the yarn as it passes the twist trap and the yarn acquires its stretch and crimp characteristics at this point of the operation. It is then taken up onto a single bobbin, in this case flanged.

At this point in the operation of producing stretch yarn, the yarn has an inherent torque which is the sum of the individual filament torques. If the yarn were used in this condition without any compensation for the torque effect, garments made from it would be distorted in the direction of the torque. This is especially true of loose-knit garments such as socks, sweaters, leotards, and the like. The torque effect can be overcome in certain woven fabrics and is used to advantage in others.

The direction of the yarn torque is due to the twist which is heat set into the yarn and also to the direction of rotation of the spindle. The most common way of neutralizing this torque effect is to ply two ends of yarn of different torque together. This is the main reason why the majority of stretch yarn produced and used is of a two-ply construction.

Sometimes two ends of yarn are simply drawn together parallel to one another and inserted in the fabric in this relationship. But the most common method is to twist the two ends together. In the United States where producers' yarn is normally twisted in the Z direction, the two-ply yarn is twisted in the S direction. This opens up the filaments of the individual ends in the ply yarn, thus increas-

ing the yarn's coverage and stretch.

This torque can be minimized and sometimes eliminated completely by reprocessing the yarn on the false-twist machine and twisting it in the opposite direction and at a lower number of turns than was used in the original process. This secondary process is, however, quite difficult to control and it is only with extreme care that the resulting yarn has zero torque. At best the torque varies from S to Z along the whole length of yarn.

Stretch-Yarn Properties. The characteristic load - elongation curve of stretch yarn is shown in *Figure* 4. The yarn actually has two very distinct moduli as compared to the raw nylon, which essentially has only one. The first modulus is that of the curling effect of the yarn with a small contribution of crimp. The second modulus is almost exactly that of the filament nylon.

The load-elongation curve of filament nylon is shown dotted so that it coincides with the stretch yarn curve. The transition from one modulus to the other is actually the varying crimp modulus as the crimp is pulled out. An observation of these curves shows that the stretch due to the curling and crimp characteristics of the stretch yarn is approximately 300% as compared to approximately 27% stretch for the filament yarn. The initial modulus of the stretch yarn is also very much less than that of the filament yarn.

Normally, not all of the yarn stretch is utilized in the final fabric, i.e., the magnitude of fabric stretch is not 300%. The final fabric stretch depends to a considerable degree on the type of fabric made. Loosely knitted fabrics normally stretch more than tightly-knit or woven fabrics. The resulting stretch in the case of normally knit fabrics is approximately 100%. The reduction is due to filament and yarn interference within the fabric.

Both the elongation and modulus of stretch yarn can be modified in a number of ways. The most common method and the one which permits the widest latitude is by pre-twisting the singles yarns to different degrees of twist. By so doing the modulus can be either increased or decreased. The amount of stretch will likewise be dependent upon this twist.

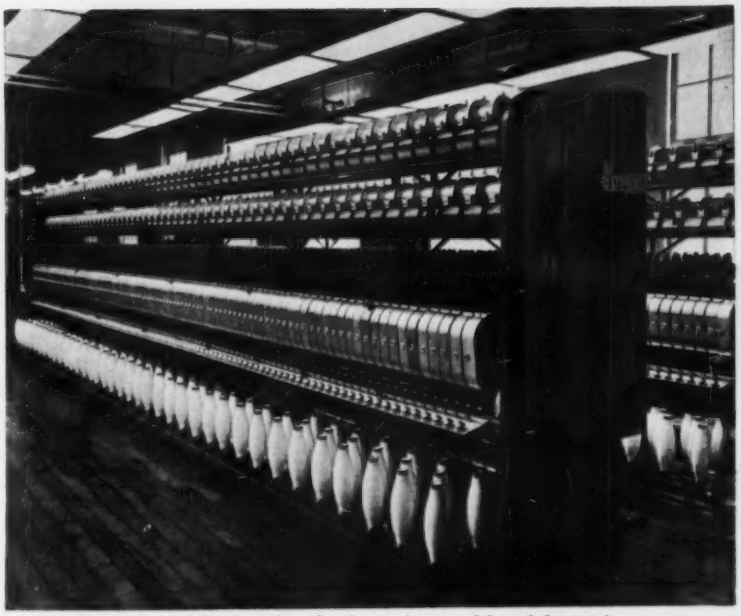


Figure 5. Model 550 machine for the production of Superloft stretch yarn.

Normally, as the yarn is more tightly twisted, be it the singles or plied yarn, the stretch will be decreased. This is mainly due to the increase in interfiber friction. These characteristics of the yarn can likewise be changed by altering the conditions under which the yarn is processed, i.e., by changing the twist, yarn temperature, tension, etc.

The variables in this process are the yarn twist, heater temperature, and yarn tension, commonly referred to as the "three T's." The most important of these factors is the twist. By varying the twist, the yarn quality and resulting fabric texture can be controlled within fairly well-defined limits. The resulting fabric can be made either very smooth and quite harsh, or very soft and quite crepy, or like a bouclé.

For every denier of yarn a "threshold" value of twist exists above which a very tight and well-set yarn is made and below which a loose and poorer yarn results. The fabric made from the high-twist yarn is very smooth and harsh while that from the low twist yarn is soft and crepy. Variation in twist in either of these ranges results in a yarn variation, but of a smaller magnitude. In general, as the twist is increased the yarn becomes tighter and the fabric harsher, whereas when the twist is decreased the fabric becomes more crepy. High-twist yarn is more stretchy and has a high modulus in the stretch range.

The temperature at which the yarn is processed should be controlled as accurately as is commercially possible.

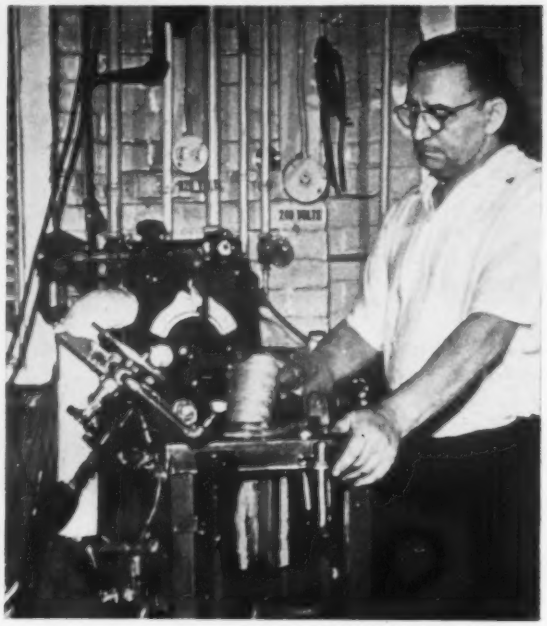
The tension at which the yarn is made is also critical and must be controlled within narrow limits. Certain yarns and applications require operation at low levels of tension while others require high tension levels. Such control exists only in false-twist machinery.

The application of false-twist stretch yarn has spread into many different and diversified textile applications, even though socks still consume a considerable portion of the 25 million pounds produced in the United States last year.

Some of the major applications in both knitting and weaving are sweaters, upholstery fabrics, foundation garments, bathing suits, lace, and many others. The type of yarn required in each of these applications is different and the success of the final article depends upon how well the yarn is made to suit the end use.

Man-made fibers—chiefly nylon, Dacron, and Orlon—make up the largest percentage of Heminway & Bartlett's thread production. Below, the thread, after redrawing, doubling, matching, and twisting, is wound under controlled tension onto metal tubes for dyeing. The packages are tested for density before being sent to the dyehouse.

The conditions of practical dyeing under pressure are duplicated in this laboratory package dyeing machine. The formulation is adjusted, and such critical factors as liquor ratio, temperature-pressure relationships, and rate of flow established. More than 90% of the shades sent from the laboratory need no adjustment in the dyehouse.



Package dyeing

Staff prepared
Exclusive

FOR MANY applications where threads of man-made fibers best meet requirements, some modification of fiber properties is essential. Something more than selection of fiber and manufacture of a balanced thread is needed.

Perhaps the most versatile property of man-made fibers, which makes fiber modification possible, is that of thermoplasticity, or the ability to become soft and workable when heat is applied. Together with other physical and chemical properties, it presents a fertile area for applied research.

As manufacturers of threads since 1888, the Heminway & Bartlett Manufacturing Co., of Watertown, Conn., recognized the need to develop improved threads for specific applications, and began a long-range program of research not long after nylon became available. To date, a number of patented threads and processes have been developed, largely through the coordinated efforts of application engineers, who are active in the field, and plant technicians, who have acquired practical know-how in processing and finishing the man-made fibers.

Although some natural fibers, notably silk, are still processed into threads at Heminway & Bartlett, virtually its entire production is comprised of fibers in the polyamide, polyester, and polyacrylic classes.

While man-made fibers, both in fiber and in thread form, offered a promising area for research, their hydrophobic or low water absorption qualities posed a major problem in dyeing. When conventional methods of dyeing were applied to nylon and Dacron, longer cycles were required, and often the use of carriers was necessary to open up fiber surfaces.

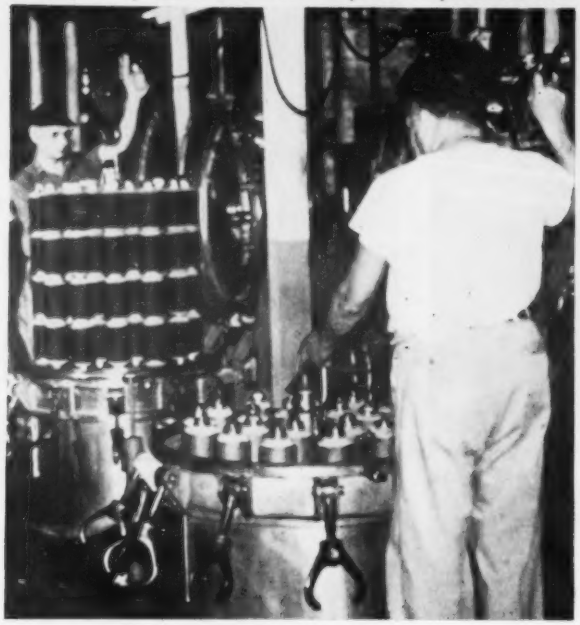
Such methods, though satisfactory for some shades, pointed to the need for more efficient and economical methods. Moreover, for many applications, as in the automotive field, color fastness requirements could not be met.

As everyone in the dyeing industry knows, this problem has been overcome by dyeing under pressure at high temperatures. Working closely with machinery manufacturers, Heminway & Bartlett were pioneers in adapting conventional package dyeing equipment to this new concept of dyeing, which can be regarded as more of a science than an art.

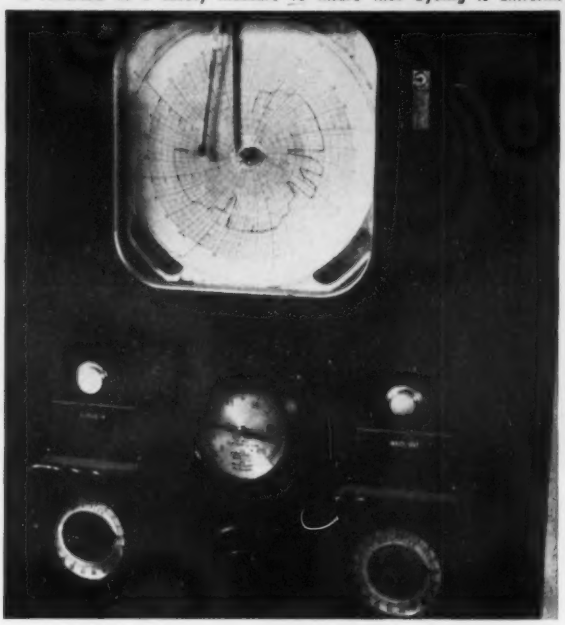
It is perhaps evident from the foregoing that the development of a thread entails not only application research but the development of efficient processing techniques as well, which impart the essential properties. In general, threads must meet two major conditions: (1) during their application to a product and (2) in usage, as a component of a product, where they must often possess both functional and lasting decorative value.

Requirements Are Stiff. A glance at the principal industries served by Heminway & Bartlett, and some of their specific require-

In pressure dyeing, temperatures up to 260 F are used to increase the penetration of the dyestuffs into nylon, Dacron, and Orlon. This makes for dyeing cycles of about an hour. Severe requirements of the automotive trade for lightfastness and washfastness are easily met by threads which have been pressured dyed as described.



Dyeing conditions are controlled from this panel, which also records time-temperature relationships. Dyestuffs behave differently at different pressures, calling for close control if shades are to be accurately matched. At predetermined intervals, the flow of liquor is reversed as a safety measure to insure that dyeing is uniform.



synthetic thread

ments for threads, emphasizes the need for exacting processing and finishing techniques:

1. Automotive industry — The introduction of new textile and plastic materials, and the possibilities they offer the automotive trim stylist, have brought about the need for threads with varying properties. Obviously, in many automotive applications lasting decorative value is of primary importance.

In almost all sewing operations, strength, elasticity, abrasion resistance, and flex life are among the major properties required of a thread. In decorative stitching, a variety of stitches may be produced on machines that differ in their thread-property requirements. Perhaps the most outstanding properties required of a decorative thread in usage are those of abrasion resistance and color permanence. It is not uncommon in many automotive applications that colors must withstand 120 hours of Fade-Ometer exposure.

One of Heminway & Bartlett's developments, which will be described in greater detail in following paragraphs, lends itself to upholstery applications. It is a nylon thread, which possesses controlled elongation and shrinkage, and is thus capable of stretching under stress and returning to its original length after the stress is removed.

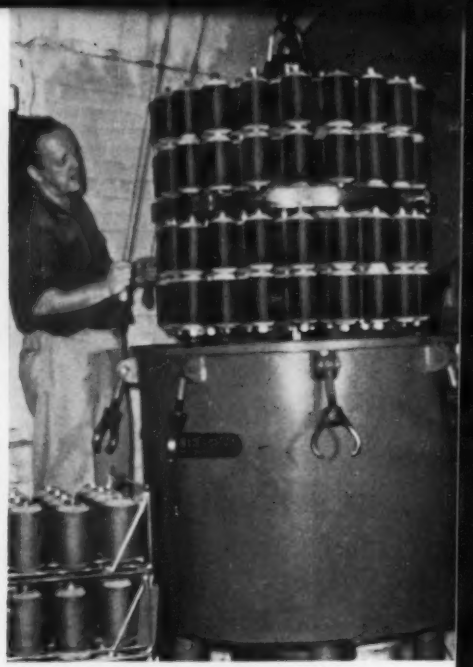
2. Garment industry—In general, the thread requirements of this industry vary with textile materials, the types of sewing machines employed, and the ultimate use of the garment. The demands placed upon a thread during sewing can be severe. For example, in making a conventional lock stitch, where eight stitches per inch are called for, any point of the thread passes through the eye of the needle at least 32 times.

In recent years, the concept of wash-and-wear in garments has created the need for improved sewing threads of nylon and Dacron to help overcome such common problems as seam puckering and seam slippage. A number of threads of nylon and Dacron have been developed by Heminway & Bartlett for this purpose; they possess lower elongation and controlled shrinkage—the two properties which are needed together.

This is accomplished by the Uniset Process, which centers around the thermoplastic characteristics of these fibers. It is particularly applicable to nylon, since this fiber possesses a much higher elongation than Dacron. In fact, after redrawing and twisting, nylon has an elongation of 24% at the breaking point. And the dyeing operation increases this figure by an additional 12%, dependent on temperature used. In this state, nylon is not suitable for use as a sewing thread in wash-and-wear garments, and requires a treatment which will lower its elongation to a predetermined degree.

The process, in brief, consists of passing the thread at a temperature of 400 F and higher through two sets of rollers, while under high tension, in the presence of chemical catalytic agents. Actually, a molecular rearrangement takes

Pressure dyeing of synthetic yarns has largely replaced skein dyeing, which often requires carriers and a longer dyeing cycle. Too, the fastness properties obtained in skein dyeing are often not equal to those obtained by pressure dyeing. Skein dyeing makes up only a small percentage of the production at Heminway & Bartlett; it is used principally for silk.



After dyeing, the packages are extracted and dried in a circulating system dryer. From here the thread goes to the finishing processes—usually a soft finish or a bonding.

place, resulting in a more orderly orientation of the molecules. Besides setting the thread at a predetermined stretch, the process also decreases its diameter while increasing its strength.

3. Shoe industry — Because of the wide range of materials now used in the manufacture of shoes, and the variety of sewing operations involved, each posing its particular kind of problems, the thread requirements of this industry can hardly be generalized.

The inherent properties of nylon and Dacron, such as their resistance to moisture and mildew, have made them particularly attractive to the work-shoe industry. Where resistance to oils, mineral acids, and chemicals is required, Dacron finds greater application. But since man-made fibers are of higher initial cost and pose problems in many sewing operations in their straight form, application research is needed to develop modified threads.

In this industry, as in the previous two mentioned, threads must also have decorative value, particularly in markets where styling changes are more frequent.

Perhaps the most recent development at Heminway & Bartlett is a textured nylon thread, which has overcome the important problem of "strip-back" in shoe stitching through its added bulk and elasticity.

In addition to these industries, there are numerous miscellaneous applications for threads where more often than not competition from natural fibers is keen, and threads of man-made fibers must offer significant advantages before they are accepted.

Thread Operations. The operations in the manufacture of a thread might well be classified under two headings:

1. Mechanical processing
2. Dyeing and Finishing

In mechanical processing, the objective is to build up a well-balanced thread from ends of raw yarn. To accomplish this, three operations are generally required:

1. Redrawing. This consists merely of transferring raw yarn from the shipping packages—pirns or cakes—onto spinner bobbins under slight tension.

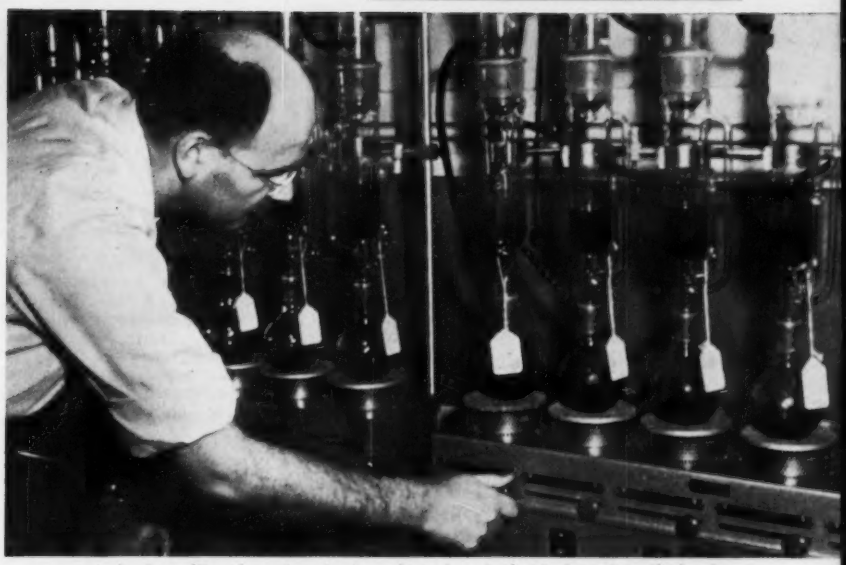
2. Doubling and spinning. The ply yarn of the thread is built up of one or more ends of yarn to the required size, and then is twisted at high speed in the opposite direction to the final twist.

3. Matching and twisting. Two or more plies are matched and twisted in the opposite direction to that of the spin. The number of turns per inch in the single, versus those in the final twist, must be carefully controlled to obtain a well-balanced thread with maximum strength.

4. Winding for dyeing. In this operation, the thread is wound under proper tension on perforated stainless steel tubes. The amount of tension varies with the fiber and how much the yarn will shrink in dyeing.

Pressure Dyeing: Faster colors in less time. Besides being the most efficient and economical method for dyeing yarns of low absorption, pressure dyeing at high temperatures produces level dyeings of deep penetration and maximum color fastness. With respect to light fastness, particularly, pressure dyeing is superior to conventional carrier dyeing methods. In general, there is no problem in meeting 40-60-hour Fade-Ometer ratings on Dacron, and much higher ratings on nylon. Wash fastness requirements, which in general call for launderability at a minimum temperature of 180 F, are likewise readily met.

For dyeing nylon, acid and premetalized dyes are mostly used, followed by selected acetates and directs. For dyeing Dacron, acetates find greatest usage, followed by some selected developed dyes. Selected acetates on Dacron, be-



Quality control specialists have full authority to halt an operation if thread quality is approaching the borderline; inspections of equipment are made daily. Besides in-process control of quality, there is extensive physical and chemical testing of the finished thread. Before shipment, all threads are tested for breaking strength, as in photo at left above. Thread is also solvent-extracted to determine percentage of finish present, as in the right photo. The research director is in charge of the quality control program.

sides providing satisfactory light fastness, are also fast to laundering at the boil.

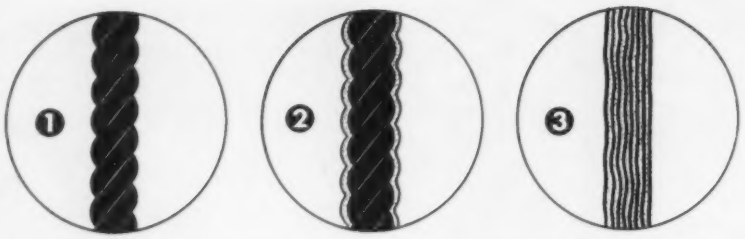
For dyeing Orlon, which possesses marked resistance to degradation in sunlight, selected basics meet light- and wash-fastness requirements.

Heminway & Bartlett's dyeing equipment includes several single kier package machines of 80- and 120-lb capacity; and cascade-type skein dyeing machines, which find usage in dyeing silk and certain shades on man-made fibers. Each pressure dyeing machine is equipped with a heat exchanger, of standard design, for more rapid cooling of dyeing temperatures, which reach 250 F and higher. For drying after dyeing, there is a circulating system dryer, in which extraction and drying are carried out.

To assist the plant dyeing staff, Heminway & Bartlett long ago began a laboratory development program, which has as its important functions the continual evaluation of dyestuffs and auxiliary chemicals, and the development of shades and procedures. The laboratory is equipped with pressure dyeing equipment of smaller scale, which enables experimentation under practical conditions.

	NYLON	DACRON	ORLON	COTTON	LINEN	SILK
Strength at 72 F 68% RH GPD	7.0	6.0	4.5	2.45	3.70	5.0
Wet Strength Per cent of dry	88	100	95	125	130	80
Loop Efficiency Per cent	85	73	63	95	92	85
Abrasion Resistance Cotton = 1	6.0	2.25	1.45	1	1.2	1.75
Melting point	482F	480F	Softening at 450F	Does not melt Decomposes at 300 F	Decomposes at 300F	Decomposes at 300F
Acid Resistance	Fair	Good	Excellent	Poor	Poor	Poor
Alkali Resistance	Excellent	Fair	Poor	Excellent	Good	Poor
Resistance to Micro-organisms	Unaffected	Unaffected	Unaffected	Rapidly Degraded	Rapidly Degraded	Rapidly Degraded
Resistance to weathering	Fair	Fair	Excellent	Fair	Poor to Fair	Poor

Comparative physical and chemical properties of the most important fibers used in sewing threads.



Three examples of nylon threads developed by Heminway & Bartlett to suit the requirements of specific applications: (1) A twisted, soft-finish thread, unaffected by static build-up. Used where seams must withstand high shock loads. (2) Twisted and bonded thread; resists the needle heat and mechanical action which often tend to open up twist. (3) Low-twist, bonded thread; oval cross section permits thread to slide through eye of sewing needle with minimum resistance.

Although the concept of pressure dyeing has eliminated much of the art normally associated with shade matching, it calls for more rigid adherence to established procedures if it is to be successful on a day-to-day basis.

The dyeing cycle at Heminway & Bartlett for the three classes of fibers has been established at about one hour. It calls for predetermined time-temperature relationships, and reversal of flow at predetermined intervals, all of which are controlled by instrumentation. And before a formulation leaves the laboratory, many other important factors have been carefully studied: individual dye behavior and stability at the higher temperatures, liquor ratios and rates of flow, which are particularly important when dyeing combination shades.

At higher temperatures, under pressure, the behavior of dyes at varying concentrations and in combination with other dyes, can vary markedly even with slight fluctuations in temperature. Thus, the temperature must be automatically controlled. Its record on a chart serves as an excellent tool of quality control, often pointing to the source of dyeing peculiarities.

That more than 90% of all matched shades which leave the laboratory require no adjustment in formulation or alteration of dyeing conditions, attests to the soundness of the pilot laboratory's work.

Dyeing Procedure and Precautions. The following is a typical procedure for dyeing nylon thread with metalized colors:

Wet out at 140 F for 10 minutes.
Make up dyebath in expansion tank and pump into kier. Close off kier and circulate dye liquor while raising temperature to 250 F in about 10 minutes. (Kier must be bled to exhaust air and reduce pressure build-up.)
Dye at the 250 F temperature for 20 minutes.
Drop temperature as rapidly as possible after dyeing is complete, rinse for five minutes, soap with detergent for five minutes, and rinse again for five minutes.
The load is then removed and placed into a circulating system dryer for extraction and drying.

Some precautions in dyeing nylon and Dacron might be worth mentioning to indicate that "dyeing on shade" on a production basis depends on many factors.

Good dyeing begins with close control over package winding. The tension should be lowest possible and the closeness, or lay of the wind, must be proper to prevent crossover marks and unlevel dyeings.

Dyes must be selected to work well together; however, selective sorption (blocking) is much less of a problem in high temperature dyeing than in conventional dyeing.

Control of pH is most important and buffers are selected for the various dyestuff classes. Dyestuffs must be well dissolved and with the exception of the acetate dyestuffs must be filtered before they are added to the bath.

To make an "add" to the dyebath (to adjust shade), the temperature must be reduced at least to 180 F, and preferably to 140 F, when light shades are being dyed.

When dyeing Dacron with acetate dyes, a good afterscour is required to remove precipitated dyestuffs.

Finishing: A mixture of research, experience, and art. While pressure dyeing is a more precise operation, the finishing operation which follows is still an art in its important aspects, often involving both mechanical and chemical processing. The property of sewability is dependent to a great extent on the finish and the technique by which it is applied. Finishing prevents build-up of static, and lubricates the thread to reduce friction and to protect it from the heat of the needle.

Finished threads, in general, fall into two classifications: (1) Soft finish threads and (2) Bonded threads. A soft-finish thread has been chemically and physically treated. A bonded thread has received a chemical coating, which binds the filaments and plies to yield a smooth yet supple thread which facilitates sewing.

Quality Control: From raw yarn to finished thread. As specialty threads were developed, and processes for their manufacture laid out, it became evident that a quality control program was essential to assure quality. Accordingly, a plant-wide program was begun, and specialists were assigned to various operations and tasks.

The program, which embraces every operation from the incoming raw yarn through final finishing, is under the direction of the research director, and is unique in several respects. Each department's operational equipment, or an important component of it, is inspected daily. And the quality control specialists have full authority to halt an operation if thread quality is approaching the borderline.

Besides in-process control of quality, there is extensive physical and chemical testing of the finished thread.

Application research at Heminway & Bartlett, concentrated as it is on the utilization of man-made fibers, entails first of all a full exploitation of their beneficial properties. At the same time it points to the need for modification of those properties which will make a fiber acceptable for a given application. This is the only answer to the economics of interfiber competition, which favors the lower-priced natural fibers.

Supplement to the August 1959 issue of

		Rayon[1]			Saponified Acetate "Fortisan"	Acetate	Cellulose Triacetate "Arnel"	Polya
		Regular	Medium Tenacity	High Tenacity				Nylon 66
Specific gravity		1.53	1.53	1.53	1.52	1.33	1.3	1.14
Tenacity, grams/denier	Dry (70 F, 65% RH)	1.5-2.4	2.4-3.0	3.0-5.0	7.0	1.1-1.4	1.2-1.4	4.1-10.2
	Wet, % of dry	44-54	56-63	55-65	85	60-65	70	80-90
Tensile strength, 1000 psi (70 F, 65% RH)		29-47	47-58	58-97	138	18-23	20.0-23.3	60-149
Elongation at break, % (70 F, 65% RH)		15-30	10-20	9-20	6	23-30	25-40	13-45
Elastic recovery (70 F, 65% RH)	% recovery from % strain	82 30 2 20	82 30 2 20	82 37 2 15	82 67 2 5	94 23 2 20	88 43 3 10	100 8
Stiffness, grams/denier (70 F, 65% RH)		8.7	17	25	120	5.2	4.8-5.0	9-78
Moisture regain, %	70 F, 65% RH	11.5-16.6	11.5-16.6	11.5-16.6	10.0-11.5	6.3-6.5	3.2	4.0-4.5
	Commercial	11.0	11.0	11.0	11.0	6.5	3.5	4.5
Effect of heat		Does not melt.			Similar to rayon.	Loses strength at 194-225 F; softens at 397-406 F.	Before heat treatment, sticking point is 350-375 F; after heat treatment, above 464 F. Melts at 572 F.	Sticks at 445 F; melts at about 480
Effect of sunlight		Long exposure results in strength loss.			Similar to rayon.	Similar to rayon; slightly lower per cent loss.	Long exposure results in strength loss.	Significant streng loss after long exp sure, except speci types. No discolor tion.
Effect of chemicals	Acids	About same resistance as cotton; not harmed at low concentrations and temperatures. Disintegrates rapidly in concentrated acids and at high temperatures.			Decomposed by strong acids; resistant to weak acids.	Decomposed by strong acids; soluble in acetic acid.	Similar to acetate.	Decomposed by strong mineral acid resistant to weak acids.
	Alkalies	No effect with cold, weak alkalies; swelling and loss of strength in concentrated alkalies.			Swelling and mercerization in concentrated alkalies; little effect cold.	Saponified; little effect from weak alkalies, cold.	More resistant than acetate; little effect up to pH 9.8, 205 F.	Little or none.
	Organic solvents	Resistant			Resistant	Soluble in acetone, swollen or dissolved by many organic solvents. Softened in alcohol.	Soluble in acetone, chloroform, and methylene chloride. Swelled by trichloroethylene.	Resistant; soluble i some phenolic com pounds and in 90% formic acid.
Dyestuffs used		Direct, developed, azoics, and vats.			Same as rayon.	Disperse, and some azoics.	Same as acetate.	Disperse, neutral-dyeing metalized, acid-dyeing metaliz chrome, some direct
Uses[3]		1, 2, 3, 4, 5, 6, 7			4, 7	1, 2, 3, 4, 5	1, 2, 4, 7	1, 2, 3, 4, 5, 6, 7

[1] Includes cuprammonium rayon.
[2] Pilot plant production.
[3] Uses: 1. Apparel 2. Upholstery and drapery 3. Floor coverings 4. Other home furnishings 5. Bonded materials 6. Tire cord 7. Other industrial uses

Properties and uses of the

See the other side of this chart for man-made fiber and yarn trademarks and

Polyamide Fibers		Polyester Fibers	Acrylic Fibers				Modacrylic Fibers	
66	Nylon 6		"Acrilan"	"Creslan"	"Orlon"	"Zefran"	Dynel	"Verel"
4	1.14	1.38	1.17	1.18	1.17	1.19	1.30	1.37
0.2	6.3-8.7	3.6-7.6	2.0-2.7	3.0-3.5	2.5	3.5	3.0	2.5-2.8
0	85-90	100	80	85-95	83	89	100	
9	98-122	64-134	30-40	37-52	37	53	50	44-49
5	16-30	13-48	36-40	25-30	25-35	33	39	33-35
0 3	100 8	97 80 2 8	99 89 2 5	92 80 2 4	97 75 2 8	99 72 2 10	97 2	79 63 2 5
8	33-48	7-58	7	9.4	10	10.6	7.7	8.0
.5	4.5	0.4	1.2-1.6	1.5-2.0	1.0-2.0	2.5	less than 0.4	3.5-4.0
5	4.5	0.4	1.5		1.5		0	
5 F; ut 480 F.	Melting range: 414-428 F. Slight discoloration when held at 300 F for 5 hours. HBT type retains 90-95% of original tenacity after 24 hr at 330 F in air.	Sticks at 455 F; melts at 480 F.	Sticks at 470-480 F.	Sticks at 433 F.	Sticks at 455-480 F.	Sticks at 490 F.	Softens at 300-325 F; shrinks at temperatures above 240 F. Fire-resistant; does not support combustion.	Fiber properties begin to deteriorate rapidly at 266-302 F. Type FR extremely flame resistant.
strength ng expo- special iscolora-	In general same as nylon 66, but loses strength more slowly; no discoloration.	Some loss of strength; no discoloration; better behind glass.	Resistant	Resistant	Resistant	Resistant	Some loss of strength.	Resistant
by al acids; weak	Same as nylon 66.	Resistant to most mineral acids; disintegrated by 96% sulfuric acid.	Resistant to most acids.	Resistant to most acids.	Resistant to most mineral acids; disintegrated by 96% sulfuric acid.	Resistant to most acids.	Very resistant, except to 25% chromic, 70% nitric, and 96% sulfuric.	Resistant to most acids.
e.	Same as nylon 66.	No effect, cold; disintegrated by strong alkalies at boil.	Moderate resistance cold; disintegrated by strong alkalies at boil.	Fair resistance to weak alkalies; strong alkalies cause yellowing and strength loss.	Little effect cold; disintegrated by strong alkalies at boil.	Resistant to weak alkalies; destroyed by strong alkalies.	Very resistant, except to concentrated caustic.	Resistant
luble in ic com- in 90%	Same as nylon 66.	Generally unaffected; soluble in some phenolic compounds.	Unaffected by common solvents.	Unaffected by dry-cleaning and other common solvents.	Unaffected by common solvents.	Unaffected by common solvents.	Softened by warm acetone and a few other solvents.	Soluble in warm acetone; unaffected by most other common solvents.
eutral- ized, metalized, e directs.	Same as nylon 66.	Disperse, developed (azoic).	Disperse, basic, acid, acid- and neutral-dyeing metalized, chrome.	Disperse, basic, milling, neutral metalized, acid, acid metalized, chrome, direct.	Disperse, cationic, basic, acid.	Neutral-dyeing metalized, chrome, direct, disperse, sulfur, vat, and naphthol.	Disperse, neutral-dyeing metalized, neutral-dyeing acid, cationic, some vats.	Neutral-dyeing metalized, disperse, basic, some acid.
6, 7	1, 2, 3, 4, 5, 6, 7	1, 2, 4, 7	1, 2, 3, 4, 7	1, 3, 4, 7	1, 2, 4, 7	1, 2, 4, 7	1, 2, 3, 4, 5, 7	1, 7

***FREE REPRINTS** of this chart are available, on the basis of one per reader, as long as the supply lasts. Write to the Edit*

the man-made fibers

rademarks and location of producers' sales offices.

ibers	Nytril "Darvan"[2]	Vinyon	Saran	Polyolefin Fibers			
"Verel"				Polyethylene		Poly-propylene	Foil-Polyester
				Conventional	Linear		
1.37	1.18	1.35	1.70	0.92	0.95-0.96	0.90	1.82
2.5-2.8	1.71-2.3	0.6-0.7	up to 2	1.0-2.5	4.0-7.5	4.8-7.0	1.0
	85	100	100	100	100	100	100
44-49	26.5	10-12	up to 44	11-30	48-90	55-81	15.7
33-35	25-35	10-13	15-25	20-60	10-30	15-25	70-130
79 63 2 5	95 85 2 5	99 2	98.5 93.0 3 10	95 5	95 80 5 10	100 93 10 20	
8.0	7	5.8	3-12	2-12	20-40	20-50	
3.5-4.0	2.5	0	0	0	0	0	Negligible
		0	0	0	0	0	
er properties be- to deteriorate ra- y at 266-302 F. e FR extremely he resistant.	Softens at 340-350 F. Loses 30% of strength at 250 F, 51% at 300 F. Flammability similar to cotton.	Shrinks at 150 F; melts at 250 F.	Softens at 240-280 F; melts at 340-350 F.	5% shrinkage at 165 F; melts at 230-250 F.	Shrinks 1.6 to 7.1% at 212 F; melts at 280 F.	Shrinks: 5% @ 180 F. 7% @ 210 F. 9% @ 240 F. 28% @ 275 F. 50% @ 300 F. Softens at 320 F; melts at 333 F.	Sticks at 425 F; melt at 500 F (film only figures for yarn lower)
istant	Resistant	None	Darkens slightly.	Some strength loss for clear filaments, less for pigmented.	Same as conventional; can be stabilized.	No discoloration, stabilized type retains 95% of strength after 6 months in sunlight.	Variable; depends on color and method of manufacture.
istant to most s.	Resistant to most acids.	Very resistant.	Resistant to most acids.	Very resistant.	Very resistant.	Very resistant.	Readily attacked by strong mineral acids.
istant	Moderate resistance cold; disintegrated by strong alkalies at high temperatures.	Resistant	Resistant, except to ammonium hydroxide.	Very resistant.	Very resistant.	Very resistant.	Readily attacked by strong alkalies.
ble in warm ace- ; unaffected by t other common ents.	Not affected by dry-cleaning solvents.	Soluble in ketones and chlorinated hydrocarbons; swelled and softened by ethers, esters, and others.	Swelled or softened by oxygen-bearing solvents at elevated temperatures.	Soluble in some solvents at temperatures above 160 F.	Same as conventional.	Same as conventional polyethylene.	Variable
tral-dyeing me- ed, disperse, ba- some acid.	Disperse, azoic, basic.	Disperse	Disperse, some azoics.	Practically undyeable.	Same as conventional.	Pigmented before extrusion.	Colored by manufacturer.
	1	5	2, 3, 4, 7	2, 7	2, 7	2, 7	1, 2, 3, 4, 5, 7

Supplement to the August 1959 issue of

Metallic Yarns			TFE-Fluoro-carbon "Teflon"	Glass		
er	Metalized Polyester (3-Ply)	Foil-Butyrate				
	1.39	1.41	2.3	2.54	Specific gravity	
	1.5	0.4	1.6	6.0-7.3	Dry (70 F, 65% RH)	Tenacity, grams/denier
	100	70	100	65	Wet, % of dry	
	23.0	6.7	47	200-220	Tensile strength, 1000 psi (70 F, 65% RH)	
	70-130	25	13	3.0	Elongation at break, % (70 F, 65% RH)	
				100 3	% recovery from % strain	Elastic recovery (70 F, 65% RH)
			7	300	Stiffness, grams/denier (70 F, 65% RH)	
	Negligible	1	0	0	70 F, 65% RH	Moisture regain %
		1	0	0	Commercial	
F; melts only; lower).	Sticks at 425 F; melts at 500 F (film only; figures for yarn lower).	Loses strength at 190 F; melts at 400 F (film only; figures for yarn lower).	Nonflammable; gels at 620 F.	Nonflammable; loses up to 50% of strength at 650 F, continues to decline and softens at 1350 F.	Effect of heat	
nds on hod of	Variable; depends on color and method of manufacture.	Variable; depends on color and method of manufacture.	None	None	Effect of sunlight	
d by cids.	Readily attacked by strong mineral acids.	Readily attacked by strong mineral acids.		Resists most acids; attacked by hydrofluoric and hot phosphoric acids.	Acids	Effect of chemicals
d by	Readily attacked by strong alkalies.	Readily attacked by strong alkalies.	Affected only by fluorine and chlorine trifluoride at high temperatures, and by molten alkali metals.	Resists most alkalies; attacked by concentrated alkalies, and by hot weak alkalies.	Alkalies	
	Variable	Variable		Unaffected	Organic solvents	
ufac-	Colored by manufacturer.	Colored by manufacturer.	Practically undyeable.	Resin-bonded pigments.	Dyestuffs used	
	1, 2, 3, 4, 5, 7	1, 2, 3, 4, 5, 7	7	2, 7	Uses[3]	

Compiled by the editors of TEXTILE INDUSTRIES from information supplied by the manufacturers of the synthetic fibers, supplemented by data from "Harris' Handbook of Textile Fibers" and "A.S.T.M. Standards on Textile Materials."

Supplement to the August 1959 issue of
Textile Industries

A

Acele—Acetate filament yarns; Du Pont Co.

*Acetate**—Generic name for a manufactured fiber in which the fiber-forming substance is cellulose acetate. Where not less than 92% of the hydroxyl groups are acetylated, the term triacetate may be used as a generic description of the fiber**; American Viscose Corp.; Celanese Corp. of America; Du Pont Co.; Eastman Chemical Products, Inc.

Acrilan—Acrylic staple, tow, and fiberfill; Chemstrand Corp.

Acrilan 16—Acrylic fiber, whiter than the original Acrilan; Chemstrand Corp.

*Acrylic**—Generic name for a manufactured fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 85% by weight of acrylonitrile units**; Acrilan, Creslan, Orlon, and Zefran.

Aerocor — Air bulked fiber glass yarns; Owens-Corning Fiberglas Corp.

Agilon—High-stretch nontorque filament yarn; Deering Milliken Research Corp.

Algil — Polyacrylonitrile-polystyrene monofilaments; Polymers, Inc.

Alistran — Metallic yarn; Multi-Tex Products Corp.

Aristocrat — Rayon filament, staple, and tow; American Bemberg.

Arnel — Triacetate staple, filament, and tow; Celanese Corp. of America.

Avicron—Latent-crimp filament rayon (for tufted products); American Viscose Corp.

Avisco—Rayon filament, staple, and tow; acetate filament; American Viscose Corp.

Avisco Super L—Soil-resistant rayon carpet staple; American Viscose Corp.

Avisco XL — High-strength rayon staple; American Viscose Corp.

*Azlon**—Generic name for a manufactured fiber in which the fiber-forming substance is composed of any regenerated naturally occurring proteins**; none manufactured in the U. S.

B

Bemberg — Cuprammonium rayon filament; American Bemberg.

Boltaflex — Saran monofilaments; Bolta Products.

B *Continued*

Boltathene—Polyethylene monofilaments; Bolta Products.

Briglo—Bright-luster rayon filament; American Enka Corp.

Bristrand—Polyvinyl chloride-polyvinyl acetate monofilaments; Polymers, Inc.

C

Cantrece—Orlon filament yarn; Du Pont Co.

Caprolan—Nylon 6 staple and filament; Allied Chemical Corp.

Celacloud—Type "F" crimped acetate staple (for stuffing sleeping bags, mattresses, etc.); Celanese Corp. of America.

Celafil—Type "K" acetate staple (for stuffing pillows, comforters, etc.); Celanese Corp. of America.

Celaire—Twist-set acetate; Celanese Corp. of America.

Celaloft—Bulked acetate yarn; Celanese Corp. of America.

Celanese—Yarns and fibers of various types, including acetate, tri-acetate, and rayon; Celanese Corp. of America.

Celaperm—Solution dyed acetate filament; Celanese Corp. of America.

Celaspun—Yarn spun from acetate staple; Celanese Corp. of America.

Celatow—Acetate tow; Celanese Corp. of America.

Chadolon — Stretch torque yarn; Chadbourn Gotham Sales Corp.

Chemstrand — Type 66 nylon yarn; Chemstrand Corp.

Chromeflex — Metallic yarn; The Metal Film Co.

Chromspun — Solution dyed acetate filament; Eastman Chemical Products, Inc.

Civona — Hollow-filament rayon yarns; Du Pont Co.

Coloray—Solution dyed rayon staple; Courtaulds (Alabama) Inc.

*Color-Sealed**—Solution dyed staple, filament, and tow, various fibers; Du Pont Co.

Colorspun — Solution dyed rayon staple, filament, and tow; American Viscose Corp.

Cordura—Rayon filament; Du Pont Co.

Corval — Cross-linked cellulosic staple, crimped and uncrimped; Courtaulds (Alabama) Inc.

Covinaire—Rayon filament; Industrial Rayon Corp.

Covingtone—Rayon filament; Industrial Rayon Corp.

C *Continued*

Creslan—Acrylic staple and tow; American Cyanamid Co.

*Crinofil** — High-denier-per-filament rayon yarn for stiff or straw-like effects; Du Pont Co.

Cupioni — Thick-and-thin shantung-type cuprammonium rayon filament; American Bemberg.

Cupracolor—Solution dyed cuprammonium rayon filament; American Bemberg.

D

Dacron—Polyester staple, filament, and tow; Du Pont Co.

Darvan—Nytril staple; B. F. Goodrich Chemical Co.

Dawbarn—Saran, polyethylene, and polypropylene monofilaments; Dawbarn Bros., Inc.

DLP—Linear polyolefin monofilaments and multifilament yarns; Dawbarn Bros., Inc.

DLP 50—Fabric-grade polypropylene monofilaments, heat stabilized; Dawbarn Bros., Inc.

DLP 51—Fabric-grade polypropylene monofilaments, heat and sunlight stabilized; Dawbarn Bros., Inc.

DLP 61—Rope-grade 3000/16/0 polypropylene yarn, heat and sunlight stabilized; Dawbarn Bros., Inc.

*Dream Slub** — Rayon novelty yarn with torpedo-shaped slubs; American Bemberg.

Ducle'—Bulk textured yarn; Clarence L. Meyers & Co.

Dull-Fast—Dull rayon filament; Industrial Rayon Corp.

Dul-Tone—Rayon filament; Industrial Rayon Corp.

Durastran—Metallic yarn; Multi-Tex Products Corp.

Dynaloft — Textured yarn; Leon-Ferenbach, Inc.

*Dynel**—Modacrylic staple; Union Carbide Chemicals Co. ("Dynel" is a generic term, not a trademark.)

E

Eastman No. 75—Lofted acetate yarn; Eastman Chemical Products, Inc.

Eiderlon—Rayon filament; Industrial Rayon Corp.

Englo—Dull luster rayon filament; American Enka Corp.

Enka—Rayon and nylon fibers and yarns; American Enka Corp.

Estron—Acetate filament; Eastman Chemical Products, Inc.

Trademarks of man-made fiber

Designations currently used by American staple fiber, filament yarn, and textured yarn prod

F

Fairtex—Metallic yarns; Fairtex Corp.

*Fiber 40** — Temporary name for modified cellulosic fiber; American Viscose Corp.

*Fiber 500**—Temporary name for modified cellulosic fiber; American Enka Corp.

*Fiber K**—Experimental elastomer yarn; Du Pont Co.

*Fiber T**—Experimental acrylic fiber; Union Carbide Chemicals Co.

Fiberfrax—Ceramic (aluminum silicate) fiber; Carborundum Co.

Fiberglas — Textile glass fiber; Owens-Corning Fiberglas Corp.

Fibro — Rayon staple; Courtaulds (Alabama) Inc.

Filatex—Covered rubber yarn; American Viscose Corp.

*Flaikona** — Filament rayon flake yarn; American Bemberg.

*Flake Slub** — Rayon novelty yarn with short entangled slubs; American Bemberg.

Fluflon—Filament yarn modified by the false-twist method; Marionette Mills, Inc.

Fortisan—Regular and Type 36 saponified acetate filament; Celanese Corp. of America.

45 — Polyvinyl chloride monofilaments; Polyarns, Inc.

G

Garan—Textile glass fiber; Johns-Manville Sales Corp.

Glacelon—High-stretch torque yarn; Pilot Mfg. Co.

*Glass**—Generic name for a manufactured fiber in which the fiber-forming substance is glass**; Ferro Corp.; Johns-Manville Sales Corp.; Modiglass Fibers, Inc.; Owens-Corning Fiberglas Corp.; and Pittsburgh Plate Glass Co.

Golden Caprolan—Nylon 6 tire yarn; Allied Chemical Corp.

Gro-Lon—Stretch torque yarn; Grove Nylon Co.

H

Helanca—High-stretch torque yarn; Heberlein Patent Corp.

Helanca High Test—Stretch yarn for use in hosiery, tights, bathing suits, etc., Heberlein Patent Corp.

Helanca NT—Nontorque textured yarn with soft hand and substantial stretch; Heberlein Patent Corp.

H *Continued*

Helanca SP—Stretch yarn for weaving, particularly for ski pants material; Heberlein Patent Corp.

Helanca SS—Highly bulked yarn with soft hand and limited stretch; Heberlein Patent Corp.

Helanca SW—Limited stretch boucle yarn for outwear; Heberlein Patent Corp.

Hemlon—Textured yarn; Hemmerich Corp.

Hi-Narco—Medium tenacity rayon filament; North American Rayon Corp.

Hytor—Torque stretch yarn; Patentex, Inc.

I

IRC—Nylon staple; Industrial Rayon Corp.

J

Jetspun—Solution dyed rayon yarn, nylon staple and yarn; American Enka Corp.

K

Kodel—Polyester staple; Eastman Chemical Products, Inc.

Kolorbon—Solution dyed, heavy-denier crimped rayon staple (for use in home furnishings); Hartford Fibres Co.

L

Lame'—Metallic yarn; Standard Yarn Mills, Inc.

Leferon—Crimped, textured yarn; Leon-Ferenbach, Inc.

Lektroset—Twist-set rayon filament; Industrial Rayon Corp.

*Lincron**—Proposed generic name for cross-linked cellulosic fibers and yarns.

Livolon—Monofilament stretch yarn; Chadbourn Gotham Sales Corp.

*Long Type "A" Slub**—Rayon yarn with long, parallel, nonentangled slubs; American Bemberg.

Lowland—Rayon yarns; American Enka Corp.

Lurex—Metallic yarn; Dow Chemical Co.

Lus-Trus—Saran, nylon, and polyethylene monofilaments; Southern Lus-Trus Corp.

M

Magiloft—Textured yarn; Madison Throwing Co.

Malora—Metallic yarn; Malina Co.

Matesa—Dull cuprammonium filament; American Bemberg.

*Measle Yarn**—Rayon yarn with part tight and part loose filaments; American Bemberg.

M *Continued*

*Metallic**—Generic name for a manufactured fiber composed of metal, plastic-coated metal, metal-coated plastic, or a core completely covered by metal**; Dow Chemical Co.; Fairtex Corp.; Malina Co.; Metal Film Co.; Metlon Corp.; Multi-Tex Products Corp.; Nylco Products, Inc.; Reynolds Metals Co.; and Standard Yarn Mills, Inc.

Metlon—Metallic yarn; Metlon Corp.

Minifil — High-denier, low-filament rayon yarn; American Viscose Corp.

*Modacrylic**— Generic name for a manufactured fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of less than 85% but at least 35% by weight of acrylonitrile units**; dynel, Verel.

Modiglass—Textile glass fibers; Modiglass Fibers, Inc.

Multi-Cupioni — Thick-and-thin shantung-type cuprammonium rayon filament; American Bemberg.

*Multi-Strata Slub**—Rayon yarn with torpedo-shaped slubs; American Bemberg.

Mylast—Crimp-type, nontorque textured yarn; Clarence L. Meyers & Co.

N

Narco—Regular tenacity rayon filament; North American Rayon Corp.

Narcon—Super high strength rayon staple; North American Rayon Corp.

*Nub-Lite** — Nubby thick-and-thin cuprammonium rayon filament; American Bemberg.

Nupron—Rayon filament; Industrial Rayon Corp.

Nupronium—Rayon filament; Industrial Rayon Corp.

Nylco—Metallic yarn; Nylco Products, Inc.

Nylex—Nylon monofilaments; Polymers, Inc.

*Nylon**—Generic name for a manufactured fiber in which the fiber-forming substance is any long-chain synthetic polyamide having recurring amide groups as an integral part of the polymer chain**; Allied Chemical Corp.; American Enka Corp.; Bolta Products; Chemstrand Corp.; Dawbarn Bros., Inc.; Du Pont

N *Continued*

Co.; Firestone
dustrial Rayon
tional Plastic
Hall Co.);
Rayon Corp.;
yarns, Inc.; Po
Southern Lus-T

*Nytril**—Generic n
factured fiber
85% of a long-
vinylidene din
vinylidene dini
less than every
polymer chain*

O

*Olefin**—A manuf
which the fi
stance is any lo
polymer comp
85% by weight
pylene, or oth
Bolta Products
Inc.; Firestone
National Plast
(The Hall Co.
Polymers, Inc
Inc.; U. S.
Southern Lus-T

Ondule'—Rayon ya
spaced, entang
regular size an

Orlon—Acrylic fila
tow; Du Pont

P

Parfe'—Filament
color spaced in
its length; Am

Perlglo—Semidull
American Enka

Pex — Polyethyle
yarns; Polymer

Poliafil—Nylon mon
fil, Inc.

Poly-Bolta — Polyc
ment yarns; B

*Polyester** — Gen
manufactured
fiber-forming
long-chain sy
composed of
weight of an e
alcohol and te
Dacron, Kodel,

PPG—Textile glass
Plate Glass Co

Premier—Rayon fi
Rayon Corp.

Q

Quilticel—Insulatin
tate staple; Cel
merica.

ibers and where to get them

d yarn producers

Continued

Co.; Firestone Plastics Co.; Industrial Rayon Corp.; The National Plastic Products Co. (The Hall Co.); North American Rayon Corp.; Poliafil, Inc.; Polyarns, Inc.; Polymers, Inc.; and Southern Lus-Trus Corp.

*tril**—Generic name for a manufactured fiber containing at least 85% of a long-chain polymer of vinylidene dinitrile, where the vinylidene dinitrile content is no less than every other unit in the polymer chain**; Darvan.

*efin**—A manufactured fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 85% by weight of ethylene, propylene, or other olefin units**; Bolta Products; Dawbarn Bros; Inc.; Firestone Plastics Co.; The National Plastic Products Co. (The Hall Co.); Polyarns, Inc.; Polymers, Inc.; Reeves Bros., Inc.; U. S. Rubber Co.; and Southern Lus-Trus Corp.

dule'—Rayon yarn with randomly spaced, entangled slubs of irregular size and shape; Du Pont.

lon—Acrylic filament, staple, and tow; Du Pont Co.

rfe'—Filament rayon yarn with color spaced intermittently along its length; American Bemberg.

riglo—Semidull luster rayon yarn; American Enka Corp.

x — Polyethylene monofilament yarns; Polymers, Inc.

liafil—Nylon monofilaments; Poliafil, Inc.

ly-Bolta — Polyethylene monofilament yarns; Bolta Products.

*lyester** — Generic name for a manufactured fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 85% by weight of an ester of a dihydric alcohol and terephthalic acid**; Dacron, Kodel, Teron, Vycron.

PG—Textile glass fiber; Pittsburgh Plate Glass Co.

cmier—Rayon filament; Industrial Rayon Corp.

ilticel—Insulating material of acetate staple; Celanese Corp. of America.

R

Rayflex—High strength rayon filament; American Viscose Corp.

*Rayon**—Generic name for a manufactured fiber composed of regenerated cellulose, as well as manufactured fibers composed of regenerated cellulose in which substituents have replaced not more than 15% of the hydrogens of the hydroxyl groups**; American Bemberg; American Enka Corp.; American Viscose Corp.; Beaunit Mills, Inc.; Celanese Corp. of America; Courtaulds (Alabama) Inc.; Du Pont Co.; Hartford Rayon Co.; Industrial Rayon Corp.; North American Rayon Corp.; and Skenandoa Rayon Corp.

Raysorb—Yarns used for staple absorbent; American Viscose Corp.

Reevon—Ultraviolet stabilized Polyethylene monofilaments; Reeves Bros., Inc.

Reymet—Metallic yarn and staple; Reynolds Metals Co.

Rovana—Vinylidene chloride copolymer monofilaments; Dow Chemical Co.

Royalene—Olefin yarns; U. S. Rubber Co.

S

Saaba—Bulked yarn made by modifying false-twist stretch yarn; Universal Winding Co.

*Saran**—Generic name for a manufactured fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 80% by weight of vinylidene chloride units**; Dawbarn Bros., Inc.; Dow Chemical Co.; Bolta Products; Firestone Plastics Co.; The National Plastic Products Co. (The Hall Co.); and Southern Lus-Trus Corp.

Saranspun—Yarn blend of saran and not more than 30% solution-dyed rayon; The National Plastic Products Co.

Shalon—Polystyrene monofilaments; Polymers, Inc.

Skyloft—Bulked rayon yarn; American Enka Corp.

*SM 27**—Temporary name for modified cellulosic fiber; Courtaulds (Alabama) Inc.

*Spandex** — Generic name for a manufactured fiber in which the fiber-forming substance is a long-chain synthetic polymer

S *Continued*

comprised of at least 85% of a segmented polyurethane**; Fiber K.

Spun-Black—Black solution dyed rayon filament; Industrial Rayon Corp.

Spunized—Crimp-type bulked yarn; Hartford Spinning Co.

Spun-Lo—Rayon filament; Industrial Rayon Corp.

*Strata-Slub** — Thick-and-thin cuprammonium rayon filament; American Bemberg.

Strawn—Flat, strawlike monofilament rayon yarn for use in drapery and upholstery fabrics; Industrial Rayon Corp.

Super Cordura—High tenacity rayon filament; Du Pont Co.

Superloft — Filament yarn modified by the false-twist method; Universal Winding Co.

Super-Narco — High tenacity rayon filament; North American Rayon Corp.

Super Rayflex—Extra high tenacity rayon filament; American Viscose Corp.

*Super-Suprenka** — High-strength rayon yarn for tires; American Enka Corp.

Superwind—Rayon filament; Industrial Rayon Corp.

Suprenka—Extra high tenacity rayon filament; American Enka Corp.

T

Taslan—Loop-type, nonstretch bulked yarn; Du Pont Co.

Teflon — TFE-fluorocarbon staple, filament, and tow; Du Pont Co.

Tempra—High tenacity rayon filament; American Enka Corp.

Teron—Polyester fiber to be produced by Fiber Industries, Inc., in a plant under construction at Shelby, N. C.

Textralized — Crimp-type, stretch nontorque yarn; Joseph Bancroft & Sons Co.

*Thick and Thin**—Continuous filament rayon flake yarn having thick and thin portions; Du Pont Co.

Tiaralon — Strawlike, multifilament rayon yarn; Industrial Rayon Corp.

*Tinselfil**—Rayon yarn having high luster and crystal-like sparkle; Du Pont Co.

Topel—Cross-linked cellulosic staple, uncrimped type; Courtaulds (Alabama) Inc.

T *Continued*

*Triacetate**—Generic n manufactured fiber fiber-forming substa lose acetate, with 92% of the hydroxy tylated**; Arnel.

Tycora—Textured fila Textured Yarn Co.

Tyrex—Certification ma tire cord; Tyrex, In Enka Corp.; Amer Corp.; Beaunit Mills, dustrial Rayon Corp

Tyron—High tenacity ra Industrial Rayon Co

U

Unifab—Textile glass fib form; Ferro Corp.

Uniformat—Textile glas mat form; Ferro Co

Unirove—Textile glass woven roving form;

V

Velon—Saran monofilam tone Plastics Co.

Velon LP — Linear polye nofilaments; Firesto Co.

Venturia—Air bulked Ferenbach, Inc.

Verel—Modacrylic stapl Eastman Chemical P

Veri-Dul—Dull rayon fil nandoa Rayon Corp.

*Vinyon**—Generic name factured fiber in whi forming substance i chain synthetic po posed of at least 85% of vinyl chloride uni can Viscose Corp.; ucts; Polyarns, Inc. Inc.

Viscalon "66"—Heavy-de ed rayon staple, for furnishings; Hartford

Vitron—Textile glass fi Manville Sales Corp.

Vycron—Polyester filam and tow; Beaunit Mi

W

Wynene — Polyethylen ments; The National P ucts Co.

Z

Zefran—Acrylic alloy sta Dow Chemical Co.

*Not a trademark
**As defined in Textile Fi Identification Act

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Supplement to the August 1959 issue of
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274 Madison Avenue
New York 16, N. Y.

Madison Throwing Co., Inc.
Madison, N. C.

Malina Co.
125 West 41st St.
New York 36, N. Y.

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Birch and Wood Streets
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40 Worth Street
New York 13, N. Y.

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432 Fourth Avenue
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62-05 30th Avenue
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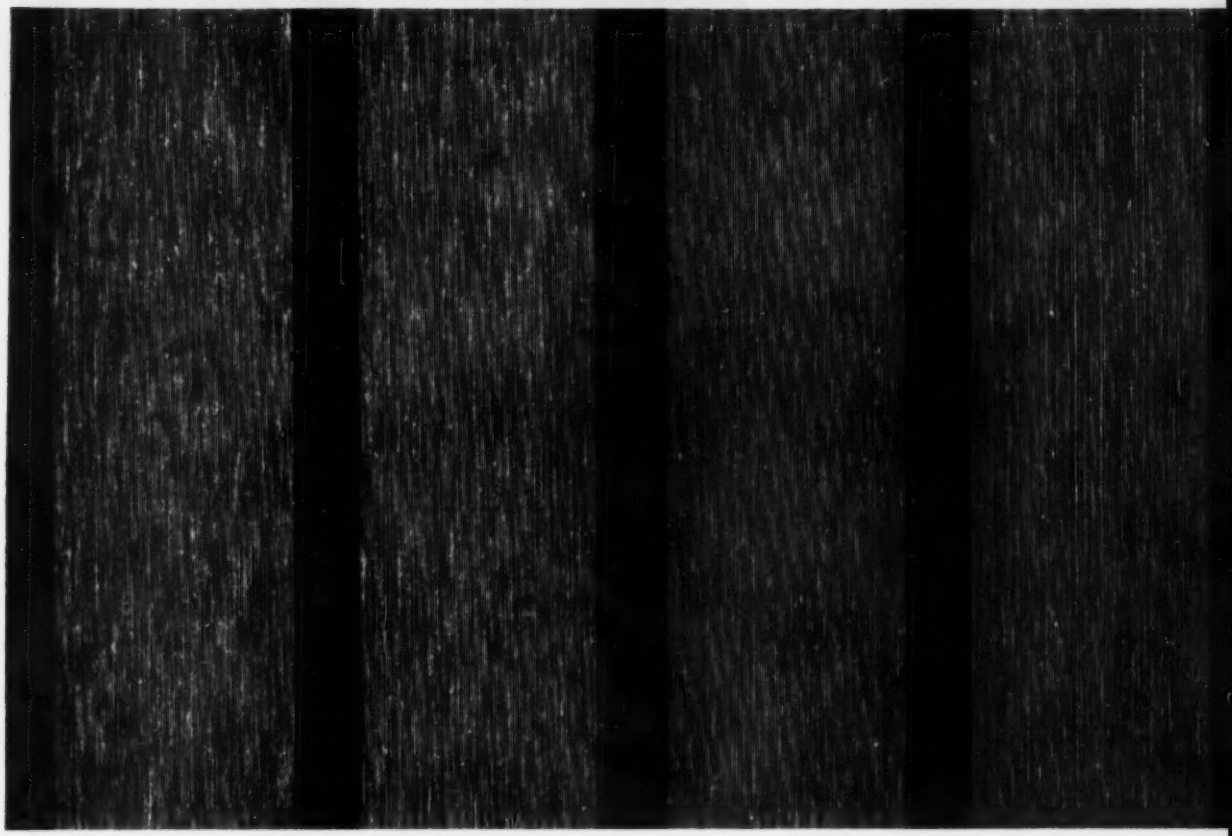
U. S. Rubber Co.
1230 Avenue of the Americas
New York 20, N. Y.

Universal Winding Co.
P. O. Box 1605
Providence 1, R. I.

These samples of 21s cotton yarn were spun from the same stock—Strict Good Ordinary (Grade 8) with Micronaire of 4.1, mean length .903", and upper quartile length 1.130". The two on the left in this unretouched photo were made by conventional carded yarn procedure; the others by the "Upsheen" process (described in this report) which a number of carded mills are said to be using succesfully. Note the improved appearance of the "Upsheen" yarns; they are stronger and more uniform, too, as test data below indicates.



Carded mills are finding low-noil combing a profitable way to make

high-grade yarns from low-grade cotton

Staff prepared Exclusive

WITH low quality cotton and changing markets making it necessary for so many mills to upgrade their yarns and fabrics has come the concept of incorporating the combing process into the carded yarn organization.

A result of this has been the development of a comber for carded mill application (T.I. for July, 1959, page 155).

Use of this high-production, low-noil machine, called the "Upsheen" comber, by a number of manufacturers of carded weaving and knitting yarns is said to have enabled them to

1. Make better yarns from cotton presently being used, or
2. Continue making yarns of the same quality from a lower grade of cotton,

with only a slight increase in labor cost (about .6¢ per lb).

Obviously, the monetary gain alone which results from either of these more than offsets the increased labor cost, thus providing additional profit for the mills. Then, too, there are other benefits which are enumerated later in this report.

Typical of what these manufacturers are accomplishing by including this comber in their yarn preparation departments is the quality improvement shown in the above photo.

Compare in the table below the strength, evenness, and appearance rating of these carded and "Upsheen" combed yarns:

	Carded	"Upsheen" Combed
Yarn No.	20.96	21.05
Skein Break (lb)	103.0	106.4
Break Factor	2160	2240
Uster: Ave. Max. Var. (%)	132.4	87.0
C. V. (%)	25.0	16.8
Seriplane Rating	C—	B

Note particularly the improve-

ment in uniformity, break factor, and appearance of the combed yarn. Although it was combed at a rate of 80.8 lb per hr with only 6.47% noil removed, the yarn is much better in every respect.

Savings on Cotton. Because the low-noil combing permits them to use a lower grade of cotton, some manufacturers are saving up to 5¢ per lb of cotton consumed.

To illustrate this, a producer of Type 4 twill had been using Middling 1" cotton to make his yarn by the conventional carded yarn system. Adding combers enabled him to use Strict Good Ordinary 1" stock.

Another raw stock advantage is the fact that only one grade of cotton is required for production of a wide variety of goods. The quality of the yarn may be raised or lowered by:

(1) Varying the noil removal as desired, and

(2) Blending combed and carded sliver at finisher drawing.

In one mill three ends of combed sliver are being blended with five ends of carded sliver at the finisher drawing frame to produce yarns for manufacture of Bedford cords. Greater efficiency in spinning and weaving with a luster and uniform color in the grey goods are benefits derived, according to the plant management.

Other Benefits of Combing. Mill experience indicates that the following are also benefits to be derived from low-noil, high-production combing:

1. It permits present high carding rates to be maintained in mills where upgrading of yarn would necessitate reducing the carding rate so that total production is less than the amount of sliver required by the drawing frames.

Likewise, it enables increase of carding rate in mills where low production is necessitated by the quality of yarn required.

2. Excellent blending is provided—7680 doublings in the card room.

3. Yarns contain at least 50% fewer neps than comparable carded yarns.

4. Noil extraction can be adjusted to correct for any variation which might have developed in prior feeding, cleaning, or processing.

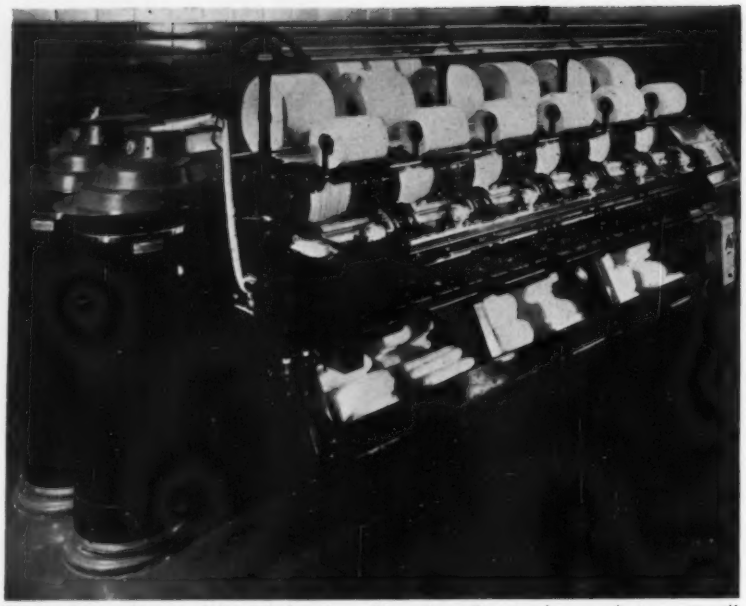
5. Higher drafts may be used.

6. Better recovery of waste—i.e., less clearer waste, less sweeps, less reworkable waste. This waste is retained in the comber noil to produce a much higher price than the lower grades of waste.

7. Up to 15% increase in break factor due to effective staple length increase of 1/16".

8. Fewer ends down at spinning.

9. Less short term variation in yarns.



This is the machine used for "Upsheen" combing. According to the manufacturer, it will comb cotton from 7/8" staple to the finest Egyptian at production rates of 70 to 80 lb per hr (100% efficiency) with precise control of noil removal from 6% to 25%. Operating features of the comber are shown in the sketches on the opposite page; also the Eureka No. 5 half lap designed for low-noil, high production combing is described.

Print Cloth Mill Studied. An actual survey of a print cloth mill producing 104,000 lb of yarn per 120-hr week at a card room labor cost of 1.80¢ per lb (with small cans, low speed drawing, and small package roving) revealed that by installing large card coilers, high speed drawing, "Upsheen" combers, and large package roving, all of the yarn could be combed at a total card room labor cost of 2.03¢ per lb.

This means that use of combing in this mill would raise the labor cost only .23¢ a pound and at the same time provide all of the advantages mentioned previously.

Equipment to modernize this mill as recommended would cost approximately $500,000. With a net saving of 2¢ per lb on the cotton used, cost of the machinery would be amortized in five years.

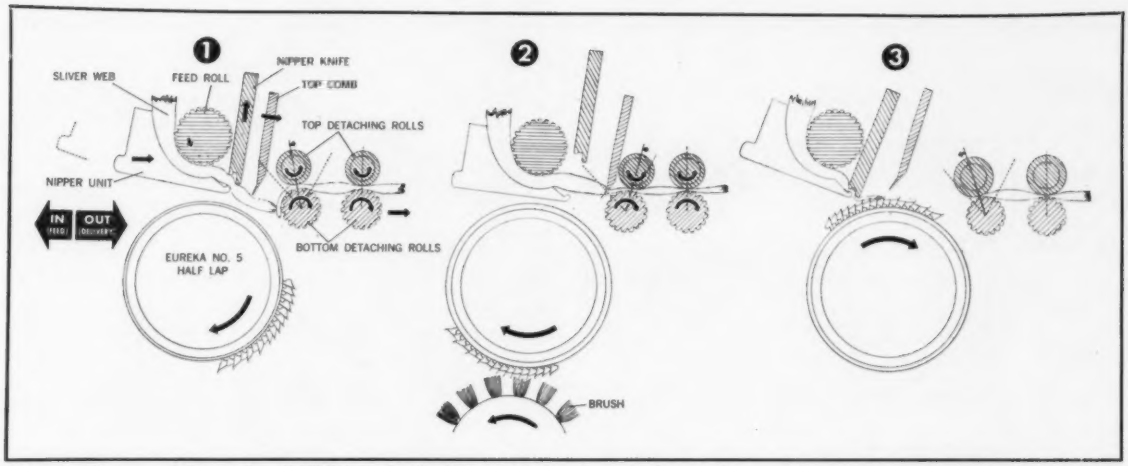
It is quite possible that the goods produced could be raised from average to premium quality, which on today's market would mean that the selling price of the goods could be increased 2¢ per lb.

Studies in some mills have shown that with modernization combed yarns may be produced at a cost which is no greater than that for carded yarns.

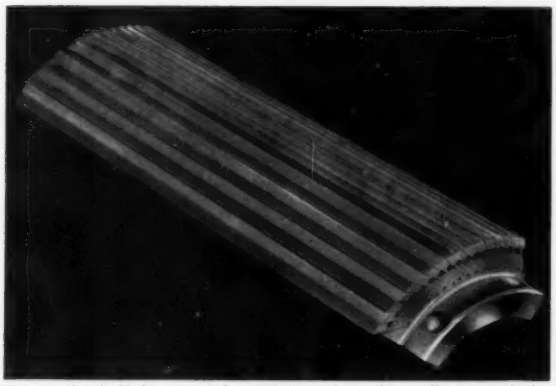
Development of "Upsheen" Comber. The function of the comber in the carded yarn organization differs from that of the comber in the combed yarn mill. In the carded mill it involves upgrading a lower grade of cotton by removing a minimum percentage of fibers, parallelizing the bulk of fibers, removing neps, trash, and immature fibers, and adding the sheen or luster that is characteristic of combed yarns.

So development of a comber to perform these functions was undertaken.

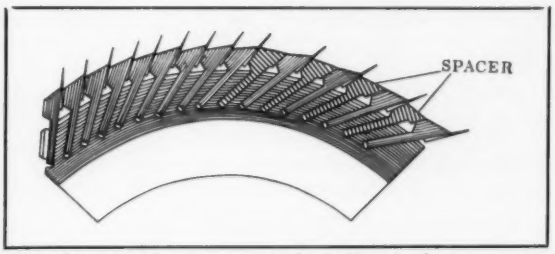
By referring to the accompanying over-all view of the now commercially available "Upsheen" comber it will be seen that it looks



Operating features of the comber: SKETCH 1—Feed roll is actuated during the piecing cycle, so length of the beard projected into the path of the top comb needles is shorter by an amount equal to the length of the lap fed. This action is said to make possible high recovery of spinnable fiber and reduce to a minimum the percentage of long fiber in the noils. SKETCH 2—Back top detaching roll moves forward when piecing to make room for top comb, allowing nipper to approach very close to the bottom detaching roll. This action allows combing of cottons down to 7/8", the manufacturer explained. SKETCH 3—Detaching rolls are held stationary until half lap has finished combing, eliminating danger of "robbing" by half lap from combed web.



This is the half lap used for "Upsheen" combing. Designated the Eureka No. 5, it is based on the principle of a uniform needle area



with a large initial cotton area in front. Note in the cross-section sketch above that there are 13 rows of needles, and that in the front section of the segment every other row of needles has been replaced with a spacer. It was explained that the spacing at the front allows the cotton fringe to rebound (or come back) after it is struck by the needles; thus, all of the lap receives the combing action. The five bars in front are fitted with flat needles; the remainder with round. The flat needles are said to be more effective in penetrating the lap, thus straightening the fibers and reducing neps.

like the conventional Saco-Lowell comber, and basically it is the same machine. The principal difference in the comber as set up for regular combing and as set up for "Upsheen" combing is in the half lap and top comb needling and in the draw boxes.

Note in the photo and cross-section view of the half lap that the spacing and projection of the needles are such that the projected needle area remains approximately constant from the first row to the last. It was designed to allow a maximum detaching efficiency with a fair to good combing efficiency. Also observe that flat needles are used in the first five rows.

The top comb is equipped with 58 flat needles per inch.

A wider 4-over-5 draw box with self-cleaning top and bottom clearers is provided to accommodate the high output of the machine (from 70 to 80 lb per hr at 100% efficiency).

Recognizing that both the purpose and result of using this machine in a carded yarn machinery organization differ from regular and accepted carding and combing processes, the manufacturer named it the "Upsheen" process. Derivation of the word was explained as follows: "UP- grades a lower grade of cotton by removing minimum percentage of fibers. Adds SHEEN, giving the luster characteristic of combed yarns."

Stock Is Combed Continuously. So-called methods of "scratch" combing reportedly do an incomplete job of combing the lap, because neither the half lap nor the top comb penetrates the beard completely.

As shown in the accompanying sketches which give operating features of the "Upsheen" comber, it does not alter proper combing in any way. The lap is combed (penetrated by needles of both the top comb and half lap) continuously.

Combing Equipment Required. Experience indicates that carded yarn machinery organizations usually need a lap winder for every 30 cards and a comber for every 6 to 7 cards.

The following extract of a report of test runs in laboratories of the machinery manufacturer may

UPSHEEN PROJECT No.		1	2	3	4	5	6	7	8	9	10	11	12	13
CARD SLIVER — GRAINS / YD.		48	48	60	60	64.5	64.5	64.5	68.6	68.6	68.6	68.6	73	73
PREP DRAWING	ENDS UP	10	10	8	8	8	8	8	10	10	8	8	8	8
	DRAFT	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
	SLIVER — GRAINS / YD	43.7	43.7	43.7	43.7	47	47	47	62.5	62.5	50	50	53	53
LAP WIND —	ENDS UP	20	20	20	20	20	20	20	16	16	20	20	20	20
COMBER	WEIGHT OF LAP — GR. / YD	840	840	840	840	900	900	900	960	960	960	960	1020	1020
	FEED PR NIP	.269	.250	.269	.250	.269	.250	.233	.250	.233	.250	.233	.233	.219
	FEED RATCHET — No. TEETH	13	14	13	14	13	14	15	14	15	14	15	15	16
	NOIL PERCENTAGE		6.9		7.07		6.61	6.52	6.47	6.7	6.25	6.82	6.63	6.83
	PRODUCTION / HR 100%		70.4 #		70.3 #		75.6 #	70.7 #	80.8 #	75.2 #	81.0 #	75.1 #	80.0 #	74.8
	WEIGHT OF SLIVER		85		85		85	85	85	85	85	85	85	85
	AVER. MAX. VAR. %		25.7		21.3		18.8	16.9	20.0	17.9	18.6	17.2	20.5	21.0
	C.V. %		6.6		5.8		4.6	3.4	4.9	4.6	4.8	4.4	5.3	5.5
FIN DRAWING	WEIGHT OF SLIVER		60		60		60	60	60	60	60	60	60	60
	AVERAGE MAX. VAR. %		19.2		17.3		18.0	14.8	15.5	13.9	16.2	15.5	16.0	18.1
	C.V. %		5.4		5.1		4.6	3.8	4.3	4.0	4.0	4.3	4.4	5.1
ROVING	HANK ROVING		1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	AVERAGE MAX. VAR. %		22.8		21.9		18.1	21.4	20.4	22.5	22.2	22.7	22.2	21.3
	C.V. %		6.3		6.0		5.4	5.2	5.5	5.6	5.7	5.5	5.6	5.8
SPINNING	YARN No.		20.88		21.01		21.41	21.65	21.05	21.74	21.37	21.14	21.69	20.49
	TWIST MULTIPLIER		3.70		3.70		3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
	SKEIN BREAK FACTOR		2300		2270		2290	2300	2240	2210	2210	2300	2200	2270
	SINGLE STRAND BREAK		424		419		395	413	421	410	407	414	345	424
	COUNT — STRENGTH PRODUCT		8850		8800		8450	8950	8900	8900	8700	8750	7500	8750
	AVERAGE MAX. VAR. %		84		80		87	82	87	90	85	90	80	76
	C.V. %		16.9		16.4		16.3	16.4	16.8	16.9	16.8	16.9	16.6	17.0
	SERIPLANE RATING		B		B		B	B–	B	B	B	B	B	B–
	USTER IMPERFECT COUNT		154		113		108	131	139	109	92	121	146	188

Results of tests of 13 different organization set-ups for "Upsheen" combing. Note particularly Project 8.

be helpful for determining preparatory organization, weight of card sliver, weight of comber lap, etc.

A comprehensive testing program involving 13 different organization set-ups was initiated. A bale of blended SGO cotton with Micronaire of 4.1, mean length of .903", and upper quartile length 1.130" was run through opening and picking.

The 16-oz/yd picker laps were carded on a standard flat card at a rate of 10 lb/hr. Sliver of the weight indicated in the accompanying tabulation of results was produced.

Of the 13 original organizations, Numbers 1, 3, and 5 were abandoned at the comber on account of sliver variation problems. Consequently, the .250 feed (14T) should be considered a maximum.

Processing was the same on all tests from bale through opening and picking. Organization was the same on all post-combing tests also.

The 4-over-5 Versa-Matic drawing frame was used for comber preparation of card slivers. See table for ends-up, draft, and sliver weight.

Note that four different lap weights were used at the comber.

The 4-over-5 Versa-Matic drawing was used for finisher drawing also, with 8 ends up of 85-grain comber sliver in all cases.

Finisher drawing sliver was processed through 12 x 6 FS-2 roving frame into 1.00 hank roving with a 1.15 T.M.

Roving was spun single creel into 22s filling yarn with 3.70 T.M. on Tru-Set Duo-Roth Gwaltney spinning (Model SG-3H).

Note that the tabulation of test results includes variation of sliver, roving, and yarn.

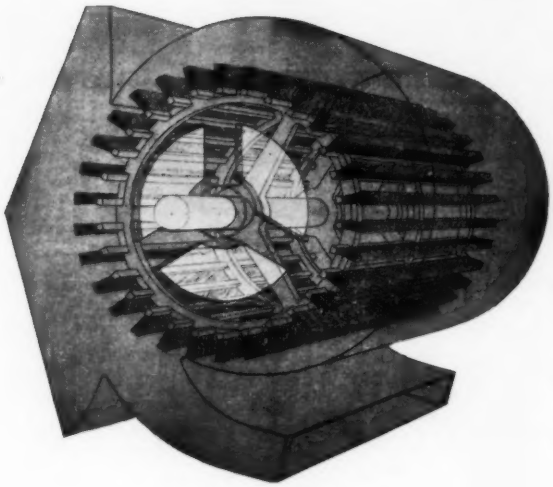
The results can be interpreted in several ways, but if maximum comber production were matched against yarn count strength product, Project 8 would be the best organization. If comber production were matched against skein break factor, either Project 8 or 10 would be equally satisfactory.

If Uster variation standards were applied, all the yarns would be considered average even as combed yarns and very even as carded yarns.

The breaking strength compares favorably with combed yarns made from 1⅛" staple according to the Sheldon Formulas.

Theoretically, Project 9 with the shorter feed per nip should have produced a slightly better yarn, but there is essentially no difference between the two yarns. However, with the sacrifice of less than 1 per cent in combing efficiency, a gain of 5 lb in hourly production from the comber was obtained.

The Uster imperfection counts were taken at 25 yd/min in 100 yd lengths with .5 sensitivity. The average of 6 tests is listed in the table. Although this test measures to some extent the proportion of neps in the yarn, it is not strictly a nep count but rather a total reading of all imperfections, including trash, neps, motes, waste, etc. Tests of carded yarn of comparable size and good quality register from 200 to 275 in 100-yd lengths. This would indicate in a general way the effectiveness of the "Upsheen" process.



AIR-BRUSH DOFFER

New doffer combines air blast and brush actions to open, doff, and convey textile fibers

by M. Mayer, Jr, and J. I. Kotter

Southern Regional Research Laboratory[1]

Exclusive

RESEARCH at the Southern Regional Research Laboratory on the development of a cleaning attachment for the SRRL Cotton Opener (1)[2] has led to a new type doffer for removing the cotton from the processing cylinders of the machine.

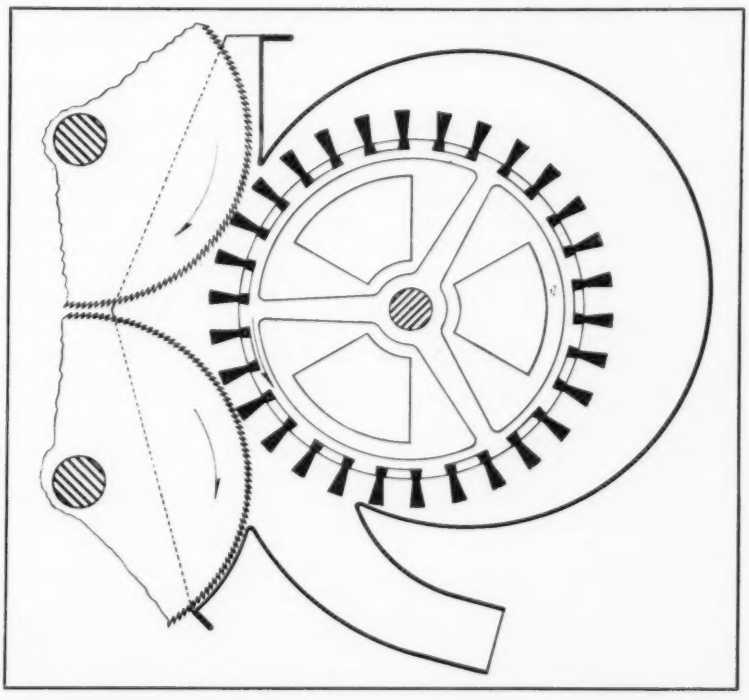
The use of air blast, air suction, brushes, and licker-in-type cylinders are all well known means for doffing cotton fibers; however, each type has limitations and disadvantages. One such limitation, common to the SRRL Opener as well as other conventional machinery, is the requirement of one doffer for each processing cylinder.

This article describes the new air-brush doffer, which combines air blast and mechanical brush actions to efficiently open and doff two processing cylinders simultaneously, and to supply the air necessary for conveying textile fibers to a subsequent process.

Description. The air-brush doffer, similar in design to a centrifugal blower, consists of two main parts—the impeller, and the casing or housing. The impeller construction incorporates a series of spoked flanges or spiders onto which are attached equally spaced brush sticks. The brush sticks perform the function of impeller blades in a manner similar to those of a centrifugal blower. The width of the impeller corresponds to the width of the feeding means.

The casing of the air-brush differs from the conventional blower spiral or scroll in that it combines a pressure chamber and an air

Figure 1. Air-brush doffer doffing two processing cylinders.



[1]One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture, New Orleans, La.

[2]Numbers in parentheses are references at the end of this article.

blast nozzle into an integral unit. From the conventional "cut-off" point of the blower to a position approximately midway to discharge, the casing is a standard logarithmic spiral to produce a chamber of increasing volume, and from this midposition to discharge the casing is shaped to effect a chamber of decreasing volume. The discharge of the casing is designed to form a nozzle which in application is similar in shape to the air-blast nozzle found in a cotton gin.

Air enters from intakes located at each side of the air-brush, passes through the spiders and is radially ejected through the brush sticks into the casing air-chamber. A volume of air is collected in the expanding volume portion of the casing and subsequently compressed in the decreasing volume portion of the casing to produce the necessary pressure for efficient nozzle ejection.

Because the brush sticks can be set to zero clearance to the device being doffed without fear of damage, efficient opening, doffing, and conveying are obtained through the combination of mechanical and aerodynamic actions. The air-brush functions as a brush doffer, a centrifugal blower and as an air-blast nozzle. A 19-inch-wide air-brush with a 14-inch-diameter impeller operating at 1000 rpm requires 1¼ horsepower and delivers 550 cubic feet of air per minute.

Application. The air-brush is being used successfully to replace the doffers of the SRRL Opener and the SRRL Opener-Cleaner (2). Research has shown that one unit will efficiently doff two processing cylinders *(Figure 1)*. Such an arrangement results in simplicity of design, and materially reduces construction and assembly cost.

The air-brush is suited for equipment in which an insufficient quantity of air for either doffing or conveying is hindering efficient operation, since it requires no auxiliary air suction for doffing, and only a relatively small additional quantity of air for conveying. The air delivered from the unit can augment a normal supply and in many installations could supply all the air necessary for conveying fibers to a subsequent process.

The air-brush may have possibility for use in the cotton ginning industry. Although no research has been done along these lines, there is evidence that the unit could successfully doff the saws of gin stands and the saw cylinders of lint cleaners without the conventional meshing of the brush with the saw teeth, thus practically eliminating brush wear. An additional advantage lies in the ability of this doffer to supply a quantity of air for conveying lint a greater distance than possible with standard brush doffers.

The essential features of the air-brush are covered by U. S. Public Service Patent No. 2,848,754. Licences to use this patent are available from the Department of Agriculture on a royalty-free, nonexclusive basis. Engineering drawings and technical specifications can be obtained by licensees without cost from the Southern Regional Research Laboratory, P. O. Box 7307, New Orleans 19, Louisiana.

Acknowledgments

The authors wish to thank J. P. Lanigan and B. E. Rushing for their many helpful suggestions during the design and construction of this development.

References

1. Rusca, R. A., and Young, R. C., A Performance Report on the SRRL-Type Cotton Opener, TEXTILE INDUSTRIES 115, 107-111 (May 1951).
2. Rusca, R. A., and Wallace, E. F., Machine Removes One-Third of the Trash, TEXTILE INDUSTRIES 122, 145, 147 (April 1958).

Sheath-core spun yarns provide unusual surfaces

■ NOVELTY effects can be obtained in sweater fabrics by using yarns spun on the sheath-core principle, a Du Pont spokesman reported at the recent annual convention of the National Knitted Outerwear Association.

Explaining that in yarns produced by this method "Orlon" fibers of different deniers are placed on the surface or in the core of the yarn bundle as desired, the speaker said sheath-core spun yarns possess unusual surface characteristics plus good wash-wear performance and improved resistance to shedding or surface distortion.

The sheath-core principle was said to utilize the centrifugal forces of the spinning operation, as well as the high bulk technique, working together to produce yarns containing a high shrinkage core from fine denier fibers, in a low shrinkage sheath of heavier denier fibers.

A distinct separation of the two fiber components, sheath and core, enables the spinner to obtain a two-dimensional effect through the use of color-sealed black fibers combined with natural fibers which may be subsequently overdyed, the speaker pointed out. The fabric surface can be further enhanced by brushing or combing the surface fibers, he added.

A typical illustration of this technique in yarn spinning, according to this Du Pont textile fibers department representative, would be the combination of a 10 denier sheath or surface (relaxed) fiber with a three denier (high shrinkage) core fiber. The coarse sheath fibers give the fabric a hairy or shaggy surface look, while the fine denier core yields strength and flexibility in obtaining yarn counts fine enough to fit into a wide range of sweater programs.

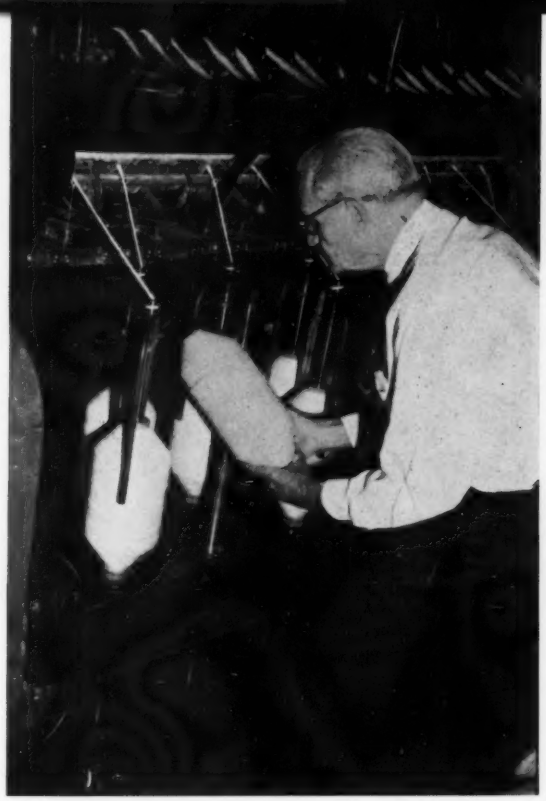
How Yarns May Be Used. "The sheath-core principle is applicable to many different sweater types," the speaker declared. "Let's look for just a moment at a few of them," he continued.

"First, we may blend various deniers such as six and 10 denier with two and three denier, or one and 4½ denier, all spun on the sheath-core principle.

"Secondly, blends of Orlon acrylic fibers with natural or other synthetic fibers may be used. An example is the high shrinkage Orlon and mohair blend in which the mohair is the surface or sheath fiber.

"In addition, the sheath-core principle may be applied to napped or brushed fabrics with the application of color-sealed black fiber cross-dyed with other fibers. This offers diversity in styling, as well as excellent performance.

"The sheath-core principle also applies to a wide range of knit constructions from fine gauge (1/30s worsted count and above) to coarse gauge constructions using 2/15s worsted count yarn. This technique has been employed in the manufacture of interlock, plain jersey, and laid-in-jersey sweater constructions."



A far cry from the equipment found in the plant in 1946 is stop-motion-equipped fly frames. J. C. Godfrey eyes a 12" x 6½" package.

Mr. Godfrey and Fred Johnson (overseer of weaving and slashing) "compare notes" on 18" x 42" card coiler. Note lap conveyor.

Rebirth of a denim mill

Old equipment in an old building and low employee morale made the purchase seem risky. But the plant now produces denims economically, and management plans to keep it that way.

Staff prepared Exclusive

IT WAS a real challenge in 1946 for M. C. Goldberg of Philadelphia to purchase the antiquated "Cutter Mill" in Rock Hill, S. C., The mill was old*, probably one of the few pre-20th century mills in operation.

The layout and flow of operations were awkward, and the mill's poor reputation in the textile industry created very low morale among the workers.

Mr. Goldberg's reaction to these circumstances, although he had had no mill experience whatsoever, was to correct the existing conditions through a program of plant modernization, elevation of employee morale, and development of a progressive attitude in management.

The conversion of the mill to the exclusive manufacture of blue denim was the primary objective under the new program.

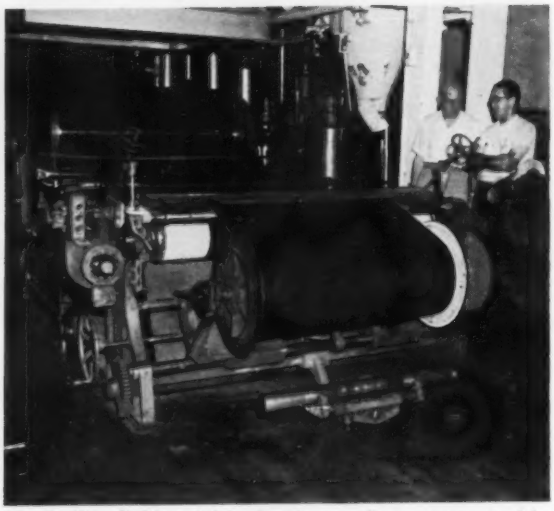
There were 466 looms, producing 60,000 pounds of cloth weekly, at the time of purchase—at present the Gold-Tex mill produces about 120,000 pounds weekly. It is indicative of the technical improvements made that the capacity of the mill could be doubled with the addition of only about 5,000 sq ft of space to the mill building.

According to George B. Peeler, general manager, these improvements have been possible because, since the acquisition of the mill in 1946 by Mr. Goldberg, the new company has spent in excess of $3,000,000 for machinery and building improvements. Mr. Peeler places great emphasis on the continuing progress of the mill as it reflects the modernizing philosophy of Mr. Goldberg.

Opening, Picking, Carding Changes. As part of this massive program, the opening line was rebuilt. Hoppers, feed tables, Junior Cleaners, SRRL machines, and downstroke cleaners were removed. At the present time, hoppers, Junior Cleaners and feed

*In the December, 1958, issue, p. 92, TI reported this firm's success with spraying hot paint onto the old brick buildings.

General Manager George Peeler inspects an 8-lb. package from the Model D spooler. The machine proves adequate for all warp yarn.



Mr. Godfrey (left) and John Saunders, carding overseer, stand by a slasher equipped with pneumatic press roll that ups beam load.

tables deliver the stock to Axi-Flow cleaners in tandem*. This change permitted a reduction in cost of raw material.

Changes in the picker line were developed through many experiments in the plant—chain drives were installed, and lap weights increased 33 per cent (a 44-pound lap was formerly made). Calender sections were renovated in making the change.

A lap conveyor now carries laps from pickers to cards and acts also as a lap storage facility. The conveyor (125-lap capacity) carriers are in transit continuously up and down the rows of cards and in the picker room.

Additional cards were installed, and the entire card room was put on reduced speed to help improve quality. Larger (18″ x 42″) coilers on all cards helped improve quality by reducing the number of piecings.

Also, the load was reduced on card tenders, enabling them to care for the additional cards. Ball-bearing comb boxes on all cards cut maintenance and lubrication requirements to a minimum.

Drawing changeovers included 14″ x 36″ cans and high speed deliveries running eight ends up at 230 fpm.

The 12″ x 6½″ FS-2 slubbers are equipped with stop motions, improving both efficiency and quality.

A single hank roving is used for all counts of yarn.

A bobbin stripper was installed to handle roving bobbins. This machine prevents damage to bobbins as well as saving labor in that spinners no longer clean bobbins.

Spinning, Winding, Slashing. Pneumatic end collectors installed on all spinning frames help quality by preventing slubs, doublings, and minimizing fly in the immediate area of the spindles. The end collectors also help conserve labor.

Overhead cleaning on all spinning alleviates further cleaning problems in the spinning room. The warp spinning package was increased 60 per cent by using longer bobbins and larger rings.

A Model D spooler has proved adequate for all warp yarn, making an 8-pound package on the coarser numbers. A ball warper operates at about 400 yards per minute and produces warps weighing about 480 pounds.

The plant operates exclusively on indigo-dyed denims. Long chain dye machines handle the warps, and raw stock dye machines are used on filling destined for "smoke filled" styles.

One nine-cylinder high speed slasher replaced three old-style two-cylinder slashers. The new slasher operates at 60-100 ypm and is equipped with pneumatic press roll on beam as well as pneumatic squeeze rolls. The beam press roll permits 15% more yarn on each beam.

Mr. Goldberg

Weaving. The weave room operates at about 90 per cent efficiency as a result of improvements in preceding processes, and quality is on a highly competitive level.

A filling conditioner helps prevent kinky filling and has elimi-

*The opening room at Gold-Tex was described in detail in the article, "2 Cleaners Better Than 1," which appeared in TEXTILE INDUSTRIES for March, 1958, page 81.

nated some broken picks. The conditioner handles about 1600 bobbins in about four minutes, and filling is allowed to age six hours before use.

A portable tying-in machine takes care of an entire warp at one setting, and 311 looms are serviced by the one machine (29 beams per shift) that warps the entire weave rooms every five days.

A new brusher and shearer handles all cloth in one and one-half shifts. From here the cloth goes to inspection frames for burling and tagging.

A new singer, operated by natural gas, improves quality by removing fuzz.

Longer rolls on the cloth pad (102″) replaced 84″ pad rolls and permit the running of double strands on the finisher. This change eliminated one finisher shift.

A triplex compressive shrinkage machine is used. Three large cylinders on this unit are operated so that two cylinders serve in shrinking while one cools and restores the regain.

A new hydraulic double-ram press with a two-stage pump compresses finished cloth in bales, each containing approximately 1000 yards.

With strict adherence to the new philosophy, modernization never stops at Gold-Tex Fabrics Corp.

More than 400 to exhibit at Atlantic City

■ WITH TEN months still to go until the American Textile Machinery Exhibition — International is scheduled to open its doors next May 23, fully 80% of the 300,000 square feet of available space in Atlantic City's Convention Hall has been allocated. The Exhibition, sponsored by the American Textile Machinery Association, is the first international show of its kind to be held in the United States.

More than 400 exhibitors, representing all the textile machinery producing countries west of the Iron Curtain—and some east of it —will display the latest developments of textile machinery research centers and suppliers' laboratories. ATMA estimates that there will be on display machinery, equipment, and supplies worth at least $20 million.

Parade of Progress

American Textile Machinery Exhibition – International

May 23 through 27, 1960

ATMA reports that a poll of its members indicates that the Atlantic City exhibition will be the only 1960 show at which their capital equipment will be displayed.

Several textile associations are scheduling their 1960 annual meetings for Atlantic City to run concurrently with the Exhibition, so that their members may combine business discussion with firsthand study of new textile equipment and manufacturing methods. Among those whose dates have been set are the Spinner-Breeder Conference, National Association of Finishers, and National Council for Textile Education. Others are expected to be announced later.

Tying in with plans for the Exhibition is President Eisenhower's proclamation to people of all lands that 1960 is designated as "Visit the United States of America Year." The ATMA-sponsored textile machinery show is the only industrial event included in the Guidebook to America, prepared and distributed all over the world by the National Association of Travel Organizations.

Next year will mark the 170th anniversary of the founding of textile machinery building in the United States and with it the establishment of the American manufacturing pattern. For the past 80 years members of the American textile machinery industry, through ATMA and its predecessor groups, have sponsored the specialized trade shows that point up the progress of the industry and its contribution to the national economy.

There will be no charge for admission to the American Textile Machinery Exhibition — International. However, each visitor will be asked to register immediately upon arrival and to wear his registration badge at all times. A special badge will be given to visitors from overseas.

Those planning to attend the Exhibition are urged to make their hotel reservations now, through the Atlantic City Housing Bureau, 16 Central Pier, Atlantic City, N. J.

Mill libraries have the answers

How many fibers in a pound of cotton?
What's "psig" mean? I've forgotten.

Here's a sample that just now came—
Please tell me the style and the weaver's name.

Who runs the lab down at Mournful Mills?
What have you got on the weaving of drills?

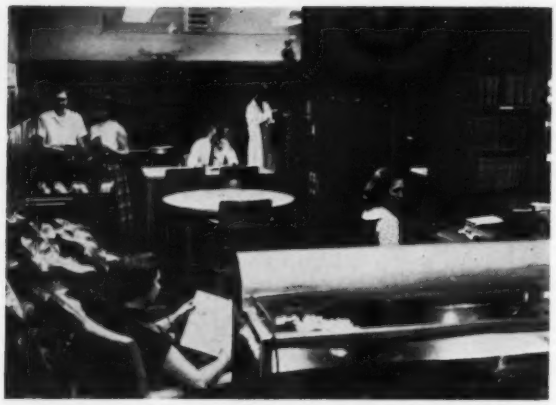
Please fill me in on typp, denier, and grex;
How do I convert these spyndles to tex?

Write to TI for a list of all fibers;
Have 'em send six—we're paid-up subscribers.

■ QUESTIONS like these are just part of the day's routine at many a textile library. The librarian won't guarantee to answer all of them, but chances are that she can soon find the answer, if she's a member of the Special Libraries Association.

The SLA is an association of librarians in business, professional, governmental, and industrial organizations. It was formed to promote the collection, organization, and dissemination of information in specialized fields, and to improve the usefulness of special libraries and research services. This year SLA is celebrating its 50th Anniversary.

A Paper and Textiles Section, formed in 1955, now has about 110 members.



Librarians at these mills are members of the Special Libraries Association. Top to bottom: Callaway Mills Co., LaGrange, Ga.; Dominion Textile Co., Montreal, P.Q.; Chicopee Mfg. Corp, Research Division, Milltown, N. J.; West Point Mfg. Co., Research Division, Shawmut, Ala. Below: Joseph Bancroft & Sons Co., Wilmington, Del.

Help for textile mill management executives who must decide

How much inventory?

This article is based on a report entitled "Gaffney Manufacturing Company Inventory Profitability Study" that was presented by the authors at the tenth annual meeting of the American Cotton Manufacturers Institute. The authors changed figures to protect Gaffney's financial position, but they did not change enough to affect the report's validity.

It must be pointed out that the report was not presented to provide specific answers to any production questions, nor to offer a formula into which management might insert a few local variables and thus obtain the decision to run the plant or to shut it down. Rather, it outlines a system each manager may use in making such decisions and lends him a measure of courage in making his "lonely" choice.—The Editors.

by A. J. Bows
and Dr. D. B. Hertz
Arthur Andersen & Co.

THE PURPOSE of the study at Gaffney was to give management facts and improved methods for making crucial decisions related to profit making.

As background information for the study, a comparison is given between twelve "bluechip" textile firms and three "bluechip" companies in other industries. This was done in search of clues as to why the profit picture in the textile industry has been so poor compared with other industries.

The twelve textile companies (refer to Figure 1) returned an average profit on net sales of 2.8 in 1957; the three other firms returned an average of 9.7—Du Pont 19.8; Standard Oil, 10.1; and General Motors, 7.6.

The textile firms earned $77,000,000 out of $2,800,000,000 in sales, while Du Pont alone earned $397,000,000 (sales, $2,000,000,000), five times the profit made by the twelve textile firms combined. Together, Du Pont, General Motors, and Standard Oil earned $2,046,000,000 out of sales totaling $21,063,000,000 and returned to their shareholders 15.7 per cent of their profits. The textile firms returned 6.5 per cent.

The textile firms turned over their inventories only four times (in relation to their sales) in 1957, while the three other firms averaged better than a seven-time turnover Du Pont eight, GM six, and Standard Oil almost nine times).

Significantly, inventories in print cloth hit an all-time high in the early months of 1958, while the return on shareholders' investments for all textile plants reported by the SEC for the first quarter of that year hit a low of nine-tenths of one per cent.

In textiles, sixty per cent of the shareholders' investments was tied up in inventory; the aggregate of the other three was 23.1 per cent —Du Pont 11.9, General Motors 35, and Standard Oil 17.2.

Clearly, low inventory levels reduce risks, speed up turnover, and improve profits.

Maximum Profit—Minimum Inventory. Important profit-making decisions in a mill involve (1) selling goods at a given price, and (2) the amount of cloth to manufacture and to put in inventory. To illustrate the importance of these decisions, Figure 2 shows the tremendous inventory build-up that took place in the print cloth industry after the favorable price structure in 1953. Notice that after this build-up took place that there really have not been any favorable prices since that date.

With these problems in mind the operations at Gaffney Manufacturing Company were studied to devise systems and procedures in decision making which would provide management with the maxi-

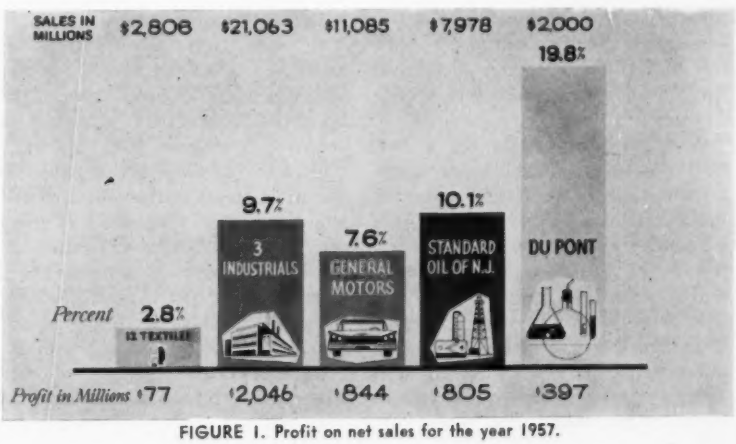


FIGURE 1. Profit on net sales for the year 1957.

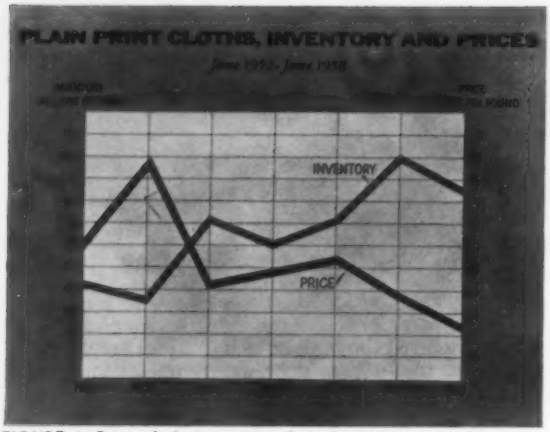


FIGURE 2. Print cloth inventory plotted against price for a six-year period. Note the diverging patterns of the two graph lines.

HISTORICAL PROFITABILITY PATTERN FOR A LOOM TYPE

Profits Per Loom Week Above Variable Costs	CUMULATIVE PERCENT OF LOOM CAPACITY COMMITTED IN PERIOD AT OR BELOW PROFIT LEVEL											
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
$14	100	100	100	—	—	—	—	100	100	100	100	100
12	90	95	98	100	—	—	—	95	90	90	80	75
10	75	80	85	85	100	—	100	85	75	60	60	55
8	55	70	75	80	85	100	80	75	55	45	40	35
6	35	50	60	65	70	80	65	60	40	35	30	25
4	15	25	30	35	45	50	40	30	20	20	15	10
2	5	10	20	25	30	30	20	10	10	10	0	0
0 (-2)	0	0	10	15	20	20	10	5	0	0	0	0
(-4)	0	0	0	10	10	10	0	0	0	0	0	0

FIGURE 3. This is compiled from previous patterns of profitability and might be the result of several seasons' activities, each corrected for the average price level of the given year as well as for other factors so that the profit per loom-week is on a comparable basis. Reading downward under the columns headed by the months of the year, one sees the per cent of loom capacity normally experienced for that month. This must be done in each plant from its own records.

mum profit.

From that study is drawn the conclusion: *maximum profit comes with a minimum of inventory.* This principal conclusion shows that at Gaffney the odds of making a good profit are most in that firm's favor if it will adopt the policy of not having one unsold yard of cloth in its inventory; if it will take the position that it will not normally manufacture any goods sold or unsold for inventory except to fill current delivery requirements of customers which generally will not require more than two weeks production at the mill; and generally that it should not build inventories for anticipated spot business or for anticipated future shortages in production.

It should only carry these inventories if the system, which is based on a study of historical sales and price structure, shows that the odds of an expected profit at the time of sale of the goods are in the company's favor compared with the cost of carrying the goods and the odds of an expected write-down.

The system permits, in effect, mill management each week to determine the odds of any commitment made on inventory. It will guide management in determining the mill's unfilled order position and day-to-day inventories.

It is developed in such a way as to insure the mill of the best long-run position. If widely used, it will reduce the swing of prices, inventories, and production, and help stabilize the industry — although, of course, in itself it cannot directly solve problems of over-capacity.

Very few businesses can do without finished goods inventory (finished and uninvoiced goods), but most try to justify them very carefully because they cost money —they build up through direct investment costs, risk costs such as insurance, obsolescence, space charges, and price pressure on the market. . . .

If inventory above the necessary part (to take care of current deliveries and that caused by deferment) is to be carried, there must be quantitative answers for: Should we carry inventory for leveling production? To anticipate sales for spot delivery in the future? For anticipating future sales which would otherwise be lost at a time when capacity will be filled?

In the first place, inventory built just to keep the mill running will reach major proportions if the level-production concept is followed continually. Secondly, premium prices must be received for inventories carried in anticipation of future spot sales if a net profit is to be realized. In the third situation it perhaps is necessary to carry inventories of certain classes of dress goods or high fashion goods. But in any event the only reason for carrying any of these inventories is for *additional* long run profit.

Recommendations. Refer to Figure 3. Determine the cost and probable profit for each additional unit over that required to meet current deliveries. In the case of inventories to obtain spot or peak capacity business, the odds definitely must be in the mill's favor before additional yardages put in the warehouse can be justified.

If a loom week of production is worth $100 at cost, then, at carrying charges of 13 per cent, it costs a little over $1.00 per month (or $13.00 per year) to carry it. At other print cloth mills it has been found that the correct carrying charges is 20 per cent or $1.67 per month.

Thus, any inventory over and above that absolutely necessary to meet deliveries is justified only when the producer has a fighting chance to get either (1) a price advantage over that at which he refuses future orders, or (2) it is known that the plant will be producing at capacity at a specific time in the future and will actually lose sales if it does not produce that inventory now.

It must be understood that the system can only deal with the odds —the chances of one move being better than another—and that it is geared to tell the mill man whether or not he has a fighting chance. The work requires detailed analyses of history and current trends and then indicates the categories

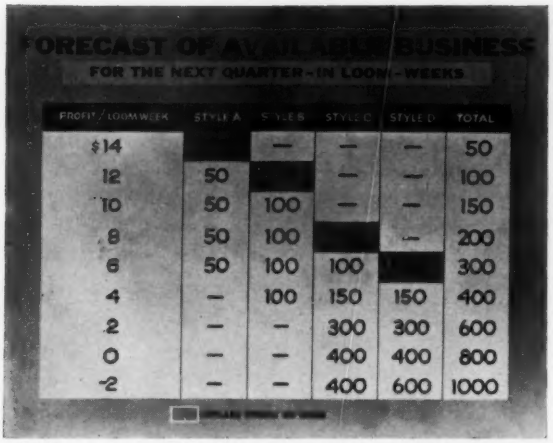

FORECAST OF AVAILABLE BUSINESS
FOR THE NEXT QUARTER—IN LOOM-WEEKS
PROFIT / LOOM WEEK
STYLE A
STYLE B
STYLE C
STYLE D
TOTAL
$14 — — — 50
12 50 — — 100
10 50 100 — 150
8 50 100 — 200
6 50 100 100 300
4 — 100 150 150 400
2 — — 300 300 600
0 — — 400 400 800
-2 — — 400 600 1000

FIGURE 4. Interpret this chart to mean that experience on Style A shows a profit of $14.00 per loom-week for the first 50 looms, $12.00 for the next 50 assigned to it, etc. This permits a quick appraisal of business available, and is based on current unfilled orders, current prices, and Historical Table of Experience.

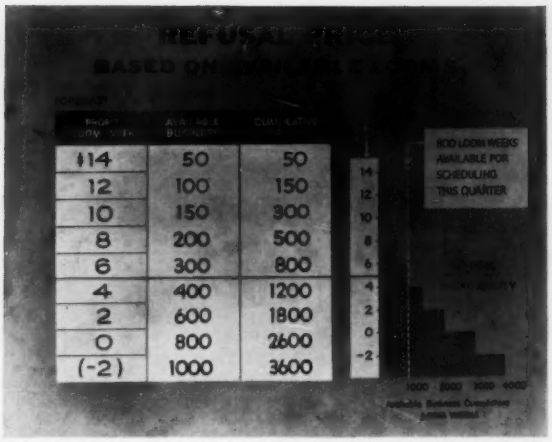


FIGURE 5. On the basis of anticipated profits, the forecast data are accumulated as here. Thus, 50 loom-weeks are available at $14.00 as before, but 150 more are available at $12.00 or more (the first 50 plus the next 100), 300 at $10.00 or more, etc. The refusal price, here shown at $5.00, is thus determined explicitly.

of risk into which various future possibilities might fall.

For example, it might be determined that the odds of selling 100 loom-weeks of production of the next period at a profit of at least $5.00 per loom week are 10 to 1; the odds on selling that same 100 looms-weeks for the same period at a profit of at least $20.00 per loom-week are less than one out of ten. If someone offered a price to yield $4.00 profit the manager would be in a better position, with this information on odds to profitably exercise judgment as to taking the business offered at the price.

Determining the Odds. There *probably* are available to mill men period to period business forecasts at various specific levels of profit. From these forecasts it is possible to move to a determination of refusal prices, prices which determine the level at which business should not be attractive to us. From these prices customer orders develop. This leads to the unfilled order position, and here it must be decided whether the odds are with management, if anything other than orders for current delivery is to be processed.

At Gaffney, experience over a period was collected to show patterns of profitability (selling price minus variable cost) so that a chart could be prepared showing the percentages of total loom capacity of a given type (say 40″ looms) committed at a given profit level. This is shown in Figure 3 in which it must be noticed that the averages for February are quite different from those of June.

These historical patterns are expanded into weekly forecasts of available business for the next quarter for various styles. See Figure 4, which has been prepared from current unfilled orders, current prices, and the historical table of expectations, to see how many loom weeks at various profitability levels have already been sold and how many can be expected to be sold in the coming quarter. An accumulation is shown in Figure 5.

If history shows that in any given quarter of activity a certain style, or a whole plant's output on all styles, should produce a profit of $5.00 per loom-week, then there should be no orders accepted for less than that figure. This is called the refusal price, and Figure 5 gives a breakdown suggesting a means of approaching that decision. The whole thing is based on historical patterns, current business and prices, and available looms.

Another way of looking at it is to remember that experience shows that the first 50 loom-weeks on a given style will produce a profit of $14.00 per loom-week; the next 100 loom-weeks on that style produces $12.00 per loom-week, etc.

Thus the situation will develop to show that 50 loom-weeks are available at $14.00 per loom-week, that 150 (the first 50 plus the next 100) are available at $12.00 or more, and so on.

The same data can be used to determine whether to curtail or to produce on the chance of making sales at a profit later. If business below the break-even point is refused in the current quarter, but all looms are scheduled to produce unfilled orders for future delivery, the result is future unsold loom capacity. This unsold capacity would have to be profitable, not only above variable costs, but sufficiently profitable to justify the cost of carrying the inventory.

The work involved in the system set up for Gaffney costs that firm about two hours work daily for one clerk; the recommendations made to the company have already been stated early in the article but bear repeating: "Carry inventory only when it is necessary because of current delivery requirements or when systematic calculation provides assurance that it will be profitable to do so"; and the purpose of the study, which originally was simply to find out how much inventory Gaffney should carry, has brought the terse conclusion: Use a system to provide maximum profitability, and do not look for a fixed answer such as the production for one, two, three weeks, or any arbitrary length of time.

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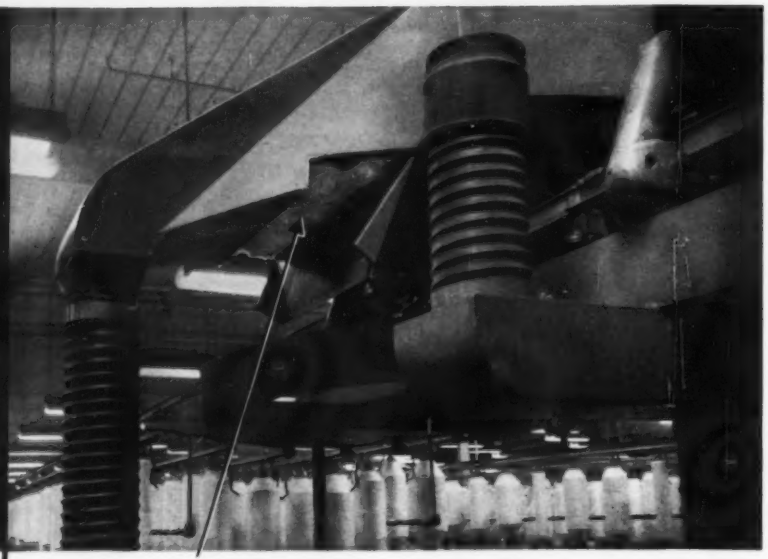

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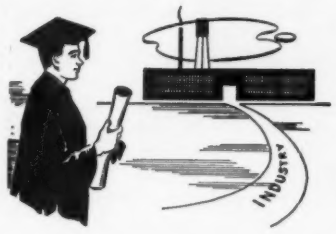

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Continued on page 134

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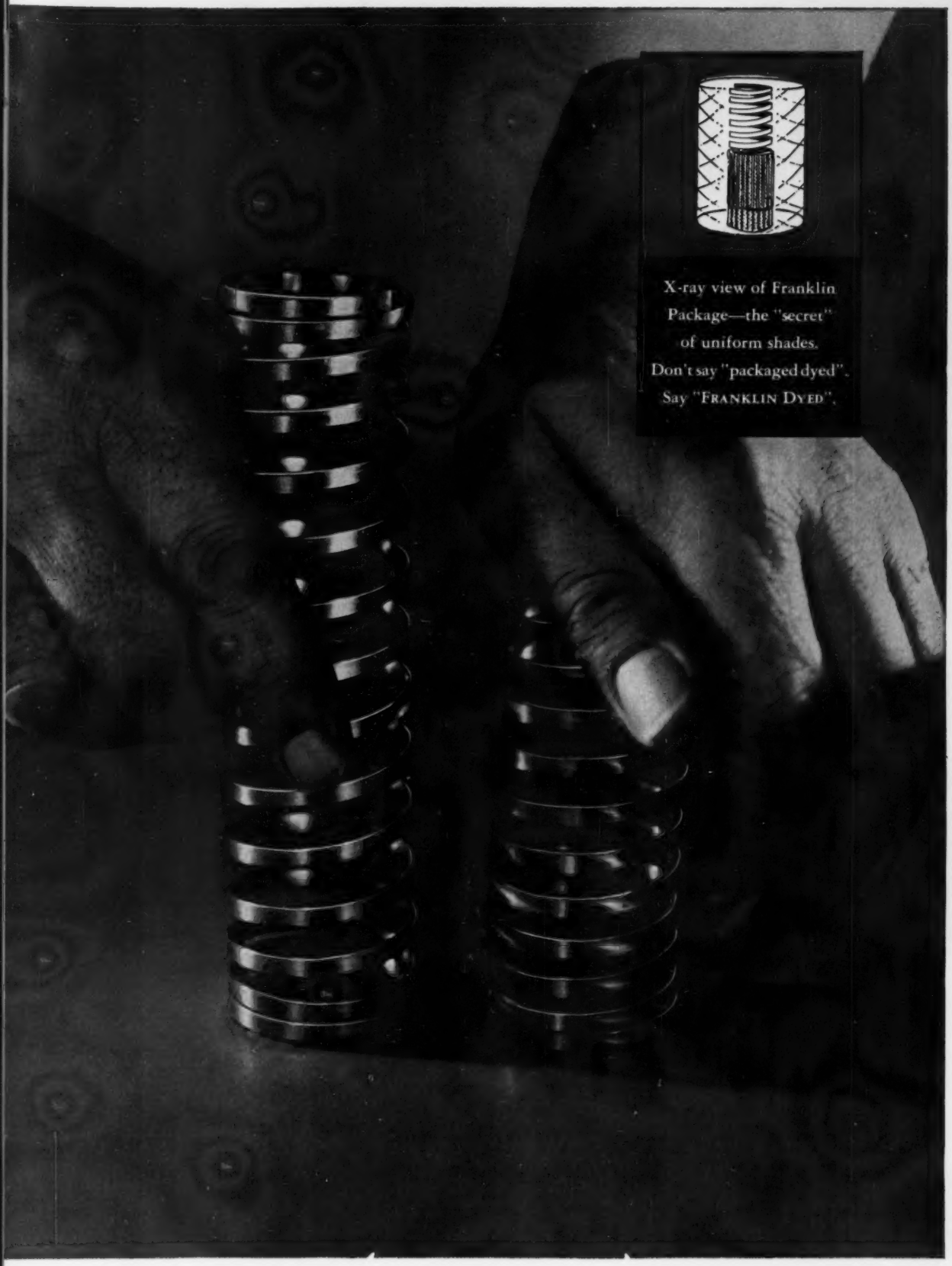
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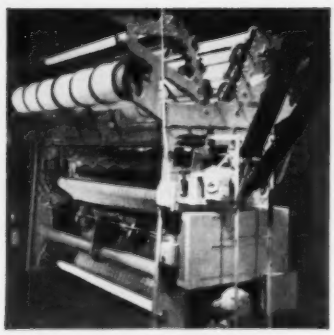

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Methods study doubled seamer production

There are a couple of rules to be followed in applying methods studies, then they become very effective in upping operative efficiency.

by Marvin Gelber
Supervisor, European Division
S. J. Capelin Associates, Inc.

Exclusive

THE USE OF methods study continues to be one of the most effective tools for improving operating efficiency. The user, however, must add two ingredients if he is going to "bake a good cake." He must resolve not to: (1) accept the status quo as being inviolate; and (2) employ the present method as the exclusive basis for development.

A classic illustration of this exists with the seaming of hosiery. In this field, conditions have not varied for years. Information flows freely from one plant to another, and as a consequence most plants have standardized their methods. As a result, a fairly uniform and stabilized output has taken place. Most plants produce four dozens per hour, with a few exceptional ones yielding as high as five dozens per hour.

Six years ago a Belgian firm prepared for a methods analysis of hosiery seaming. The purpose of the study was to determine if a better method existed by which the long training program of learners could be reduced. The analysis required the assumption that the same revolutions per minute, stitches per inch, denier and gauge, knit and equipment would prevail.

The studies which were thus made produced some startling information! These studies established that 9.3 dozens per hour were possible for a 66-15 plain knit, 87 centimeters (about 34.2") long, under the following conditions:

Machine—41300
rpm—4400
spi—17
Thread ratio control—886
System—Chain seaming
Equipment—Disposal shovel, stocking tray, disposal basket, hanger inventory rack.

Elemental Description	TST
1. Position stockings, nap down uncurler	0.055
2. Sew foot to heel narrowings	0.030
3. Sew heel narrowings to high heel	0.020
4. Sew leg to shadow welt	0.075
5. Sew welt, pick up next stocking during sewing of welt.	0.035
	0.215 minutes
Allowances	0.055
	0.270 minutes

$0.270 \times 24 = 6.48$ minutes per dozen

$\frac{60}{6.48} = 9.3$ dozens per hour

The announcement of a 9.3 dozens per hour potential yield, compared to the existing 3-4 dozens per hour yield, was greeted with considerable skepticism. Today, many factories among European firms accept this output as the norm, and yields at 10 dozens and above are becoming increasingly in evidence. It should be pointed out, too, lest quality experts assume a breakdown in this area, that the percentage of repairs averages at 0.3 compared to the normal standard allowance of 1.5 per cent.

The program for training the seamers to achieve these standards begins with the quality control department. Here, a check on the selvage tension is established. The knitting department is required to hold to the following specifications to permit the operators to function properly:

		Inch
1. Non-run to foot widening	0.4	0.016
2. Foot widenings to high heel	0.2	0.008
3. High heel to calf widening	0.6	0.024
4. Calf widening to shadow welt	0.10	0.004

The basis of training is entirely in the field of methods. When the seaming is begun, the operator is shown how to sew a stocking section by section—i.e. toe to foot narrowings, foot narrowing to high heel, etc. In this manner, each point of quality is emphasized.

It is understood, and found to be so, that if each section is sewn properly with good knitting, the entire stocking will be first choice without requiring operators to pull, let-in, or open one side of the uncurler.

Though the stocking is sewn section by section,

the machine does not stop until after the stocking is out of the cups. Time study revealed that each stop costs two dozens per day for a high speed seamer. Since a normal operator makes 7-9 stops, this means 14-18 dozens lost.

Operators are required to run machines slowly until predetermined quality and quantity standards are met. The speed is increased in stages as each standard is met.

Just as an operator is taught to seam a stocking section by section, her production is brought forth dozen by dozen without giving thought to the day's total. This is done to prevent discouraging an operator by showing her the distance she has to go.

Each operator follows a program card prepared for a quantity which corresponds to her position on a training curve. She uses this like a railroad schedule to find out where she is, time-wise, as she finishes each dozen.

In addition to the wonderful production results achieved, there are several other advantages resulting from this type of program. First of all, the quality of seaming is greatly improved. Secondly, the project requires virtually no investment in equipment.

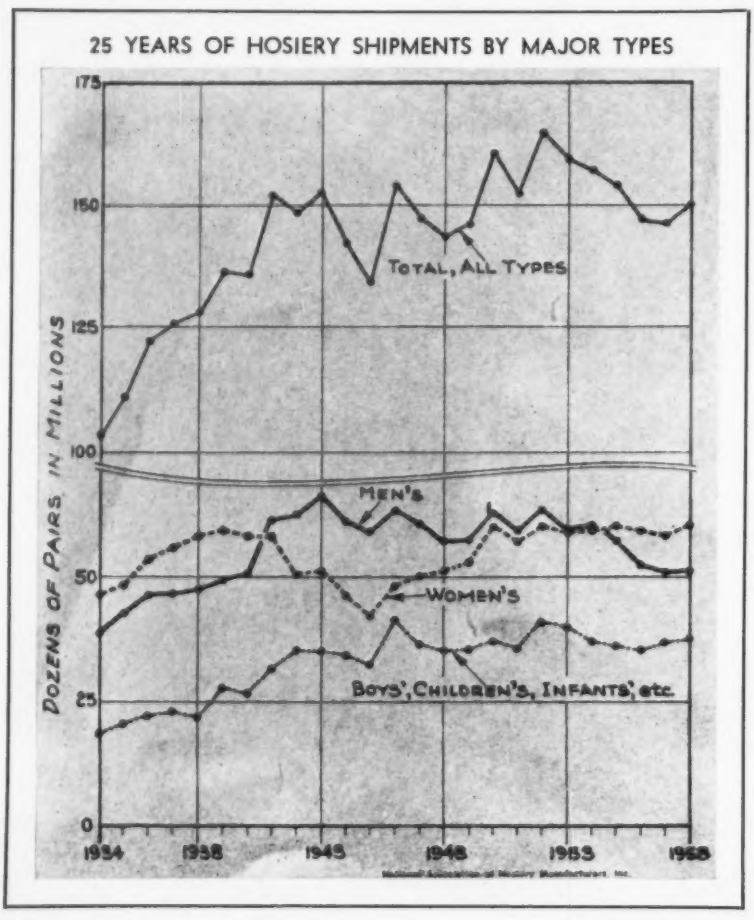
Third, results are achievable almost from the date of institution of the project. Last, and by no means least important, the training time normally allotted to learners is cut in half.

The application of this approach has had similar repercussions in virtually every area of hosiery manufacturing. And five years of experience in over 20 plants throughout Europe stand as positive proof that it can be done. All that it required was an open mind and a change of direction!

1958 hosiery shipments up 2.2 per cent over 1957

■ HOSIERY mills shipped 2.2 per cent more hosiery in 1958 than in 1957, the National Association of Hosiery Manufacturers reported in the recently published "Hosiery Statistics—1958" which, incidentally, is the Silver Anniversary edition of the organization's annual statistical publication.

In the foreword of the report NAHM president W. F. Williamson pointed out that the industry's total sales in 1958, as represented by shipments, amounted to 150,017,000 dozens of pairs—60,845,000 full length women's and misses', 51,226,000 men's, and 37,946,000 children's and women's and misses' socks.



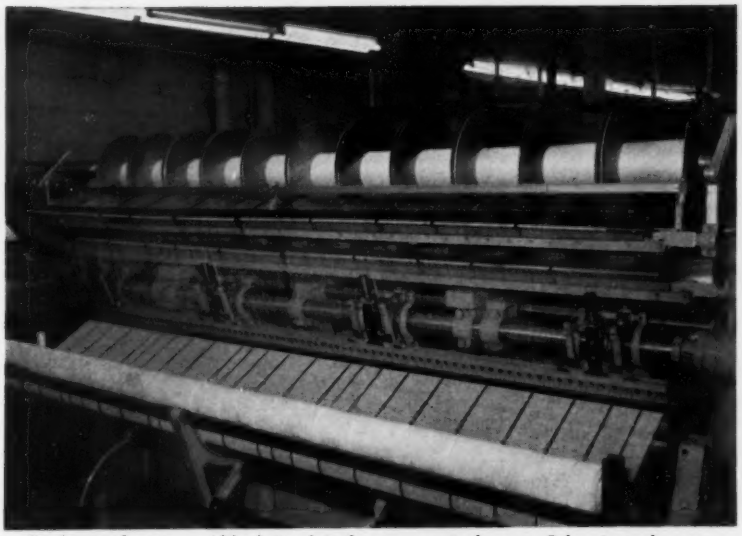
According to Mr. Williamson, in 1958 the women's division showed a 3.8 per cent gain over 1957 in sales of full-length stockings, the men's hosiery total was 0.2 per cent ahead of 1957, and shipment of children's and infants' socks rose 2.3 per cent.

Ladies' Seamless Output up 26%. "The 'big story' of 1958," the NAHM head said, "was the continued upward movement of women's seamless hosiery. With shipments of 23,684,000 dozen pairs, this division far outshone its previous best year—18,771,000 dozens in 1957."

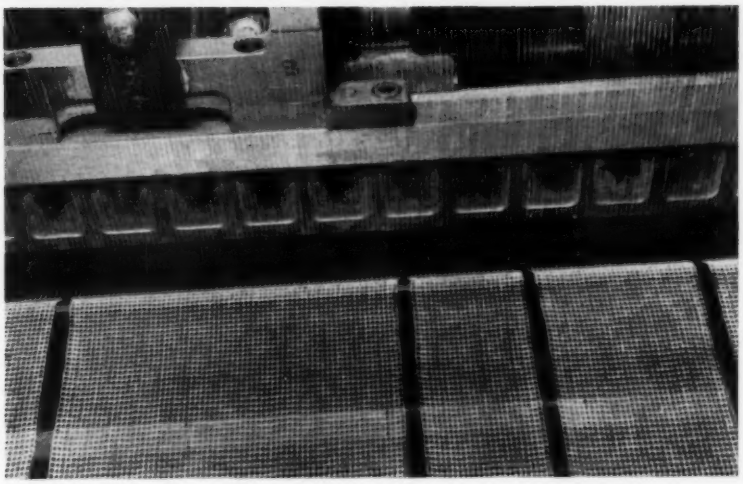
Per Capita Use. Mr. Williamson commented that a recognizable advance was recorded in per capita consumption of women's full length stockings in 1958—the average was 11.6 pairs, as against 11.2 a year earlier. Consumption of men's hosiery was 10.3 pairs per person, compared to 10.4, and that of children's hosiery, 5.6 against 5.4.

Plants and Employees. There were 1,058 hosiery mills (not companies) in existence in December of last year, a decrease of 61 mills from the 1957 total. Of the 1,058 mills, 453 were classified as full-fashioned and the remainder seamless.

The monthly average number of employees in all hosiery mills during 1958 was reported to be 102,519, with 35,337 in full-fashioned plants and the remainder in seamless.



Bandages of various widths being knit from rayon staple yarn. Below is a close-up.



How to warp-knit bandages

They're doing it in European mills . . . Perhaps U. S. knitters should consider it too

by P. Abbenheim
Exclusive

CONTINENTAL hospitals in Europe are very careful in their consumption of all types of textiles. In Germany recently, there has been a series of tests made to see if knitted bandages can be developed that would to some extent be superior to the traditional woven cotton types.

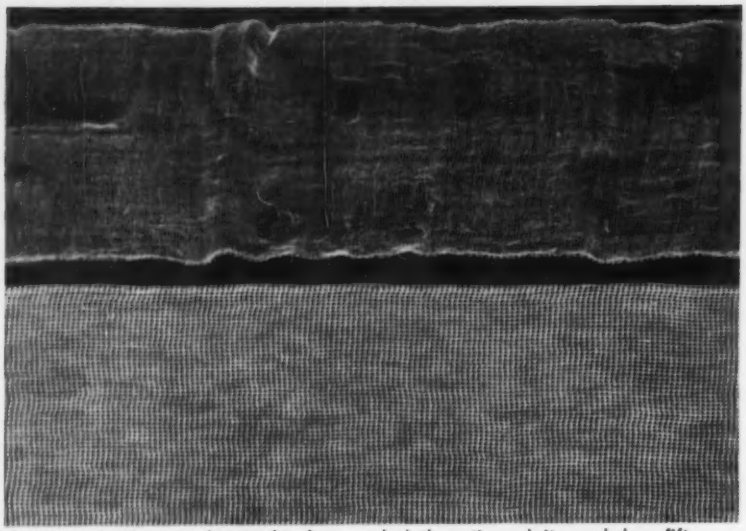
It is noteworthy that much of this research should have been made by the Cologne rayon staple producing firm of Glanzstoff-Courtaulds GmbH, who have been making warp knitted bandages on F.N.F. high speed warp knitting machines with yarns of spun Colvadur, a strong type of rayon staple produced by the company.

The significant thing about such bandages is that they are really dimensionally stable, which means that they can be laundered repeatedly and yet retain their shape. A conventional type of cotton gauze bandage, if laundered, loses its shape completely after even one wash, while those without selvages —slit from the piece—fray badly and are not suitable for recovery.

European hospitals, particularly in Germany, have a system of laundering bandages and recovering them for use again. Sterilization is, of course, most thorough. Bandages now generally most widely used are either narrow width types which have a selvage, or they are slit from a wide fabric. This latter type of structure tends to fray badly, the weave being very open and loose. Even those bandages which have a selvage suffer from bad yarn slippage and are unable to withstand much laundering.

Knit ones don't distort. It was felt by Glanzstoff-Courtaulds that if they could warp knit a satisfactory bandage with a firm edge it would not suffer from thread slippage. This would mean that such bandages could be used very many more times, while the rate of production of a knitting machine of this type would give a production rate far greater than could ever be achieved with a loom. Another advantage of the warp loom is its great width which will permit production over a working width of about 2 to 4 yards.

Bandages have been made on an F.N.F. warp knitting machine of 28 gauge. In a report on his work with this development, J. Riethmueller of Glanzstoff-Courtaulds stated that a warp knitting machine with a needle bed 84 inches wide was used. This was supplied with two rows of 11 warp beams, each beam holding 105 ends



The woven bandage at the top has been washed three times: knit one below, fifty.

of spun rayon yarn of about 41s (cotton count).

Colvadur strong viscose staple was selected for this application because it had a high wet strength and because it had already proved to be a very satisfactory fiber in several other applications. It was found that a yarn of medium twist gave the best results as this could be withdrawn from the warp beams without there being any tendency to snarl up. Twist-lively yarn is out of the question for this type of work, while the moisture absorbency of a lower twist yarn is probably better than one with high twist.

Yarns spun from the staple are usually even, clean and strong, which contribute to good warping, a prerequisite if a good machine efficiency is to be achieved on the warp knitting frame. Faults in the yarn should be removed during warping.

Knitting procedures. In producing bandages on a warp knitting frame a very simple threading is all that is required, and in this case the drawing-in was thread-one-miss-one, and across the full width of the machine there were 45.7 stitches per inch. This was then knitted up for one rack. The fabric was then divided up into the various bandage widths.

In Germany the main fabrics in use are 1½, 2¼, 3, 4 and 4½ inches wide. To ensure that tensions across the machine were as evenly distributed as possible, the arrangement of the bandage width was such that the widest types were at each side of the machine, narrowing towards the center.

To produce the bandages the fabric was measured to the required width from each edge. Then two yarns were broken out from guide bar two. This gave a dividing row. One of the threads was taken in to the edge of the first bandage, while the second thread was used for reinforcement in the selvage of the next bandage.

This sequence was repeated across the full width of the machine until the whole fabric width was split up into bandages of various widths, with the widest at each side and the narrowest in the middle.

In making this new type of bandage it was important that the selvage should not be hard and liable therefore to cut into the skin. The type of selvage mentioned above was considered the only type which would prove to be quite satisfactory, as it is smooth and elastic, sitting well when wrapped into position. If more than one thread were used as reinforcement it would give a hard selvage that would cut into the flesh.

The bandage construction in this new form was made with a relatively simple threading on a two-bar machine. The first bar was threaded 55-00-11-00, while needle bar two was arranged 01-10-01-10.

In this type of bandage there is a column of single stitches with two cross threads, but another quite good type can be made with a single cross thread. To produce a bandage with a single cross thread the drawing-in is still thread-one-miss-one, but the patterning is now: Bar 1—00-11-00-55-44-55 and Bar 2—01-10-01-10.

An important feature of production is that, after knitting, no special finishing is necessary to make them either more elastic or softer.

Glanzstoff-Courtaulds did not use a conventional take-up system on the machine. They replaced the roll normally used with a four sided, hollow, perforated metal take-up device. The bandages are taken-up on this unit during manufacture.

When production is complete and the roll of bandages is to be taken from the machine, the roll is wrapped with either a Calmuc or Molleton cloth. The take-up beam is then coupled to a steam pipe and wet steam is blown through it for about ¼ hour. The steam passes through the bandages and relaxes any manufacturing strains that may have been set-up.

With a subsequent drying, the bandages are ready for use.

Weave tests passed. It is reported by Mr. Riethmueller that older types of knitting machines are not generally suitable for making this type of bandage, as the vertical pillar stitch would be too thick and would, therefore, tighten too much. Another trouble with older types of machines is that they are unable to make the single-needle fringe as required for this particular structure.

Wearer trials have been made by the producers to see how the new type bandages feel in practice, and it is claimed that everyone who has tried them reports that they are quite comfortable. The structure gives a resistance to thread slippage that permits repeated laundering, the shape being held at all times.

There are no fraying edges to the knitted bandages, while the

yarn choice is said to give a strong bandage and yet one that has good, in fact very high, moisture absorption.

The structure of a knitted fabric such as this is virtually cellulanr and this is reputed to be a further advantage of the new product, as it permits air circulation through the wrapping and thus promotes more rapid healing.

Should the bandage eventully become wet either from water or medical alcohol there is not the slightest tendency for it to contract —shrink—and so restrict circulation in the limb to which it is applied.

Costs—Woven vs. Knitted. Cost is obviously a very important feature of production and Glanzstoff-Courtaulds have looked into this very carefully, but it has not yet been announced what actual savings can be effected. There are, of course, several variables involved.

It should not be overlooked that with the knitted bandage, to obtain the same thickness of wrap, only half the amount of woven bandage normally required is used. Some approximate cost figures, however, have been released. These are intended to give an approximate guide to the actual costs of production.

On the F.N.F. machine, knitting across a width of two meters (approximately 2.2 yards), at the rate of 17 meters per hour (app. 18.6 yards per hour), an area of 34 square meters per hour (app. 41 square yards per hour) would be made.

In the work in hand the bandage weight was about 75 grams per square meter (about 2.2 oz per square yard). On a loom weaving across a width of 140 cm (about 55 inches) and with an hourly output of five meters (about 5.47 yards), the area per hour would be seven square meters (about 8.37 square yards). In this instance bandage weight per square meter was 18 grams (app. 0.53 ounces per square yard).

In practice it was found that about twice the length of woven bandages was required to give the same thickness of wrapping as was obtained with the knitted one. The approximate comparative costs in U. S. money for making the two bandages in Germany were given by Mr. Riethmueller as being 0.052¢ for a 2.5-meter length (about 2.73 yards) of ⅜″ knitted material against 0.043¢ for a 5-meter length (app. 5.46 yards) of ⅜″ woven material.

It will be seen from these figures that there is still a price factor in favor of the woven bandage, but offset against this should be the very high rate of production on the warp frame, compared with the loom, and also the very much longer life of the warp knitted bandage against that of the woven one. Another feature of knitting production is that the yarns used in this process require no sizing or subsequent desizing, and this is quite an improvement in production efficiency. It is further claimed that setting-up time for the warp loom is less than that of a traditional loom.

On the warp frame, any width of bandage can be made, whereas with a loom several machines would be required to make different widths, so that the F.N.F. machine represents a saving in floorspace, a big item in any costing.

Whether or not the knitted bandage will find a place in the modern hospital remains to be seen. Obviously it is something well worth serious study not only by the textile manufacturers concerned with its potentialities but by hospital authorities who are anxious to maintain their efficiency at a peak.

In Eastern Europe a revolutionary approach to bandage production and use has been suggested by the Czechoslovakians. They, it will be recalled, introduced a pneumatic loom, styled the P.45, some years ago. This weaves at something over 1,000 ppm. and is a very efficient cloth producing unit.

The Czechs now propose that hospitals should install units of this type and make their own bandages. Doubtless such an idea may find interest in countries where state organizations can be brought to bear on the people concerned, but it is still very much an open question whether or not the average hospital can switch to textile production with any hope of real success.

Executive views *(from page 85)*

"Be statesmen," someone said.
Then, "Forget the bird-in-hand.
Cut back to four or five days when
Supply exceeds demand."

We're back in Carolina, now.
It's business just as always.
We're wrecking every Palm Beach
vow,
In large ways and in small ways.

The meeting was three months ago.
Now, despite the chummy quotes,
Most of the mill men that I know
Are slitting competitive throats.

The bird who called for states-
manship
In all us other gents;
Back home, has let his halo slip
And cut his price two cents.

Another fellow that I know,
Ignored consultants' warnings—
He's booked a month ahead, or so,
And runs on Sunday mornings.

And that's not all—

In our warehouse, for example,
U.S.D.A. has me hooked.
Every time I pull a sample,
I wish I hadn't looked!

This final point is very sore—
It's news that really hurts:
The buyers say our cloth costs more
Than they pay for Japanese shirts.

Things here at home are very rough,
But Herter's experts state:
"The world can't catch up fast
enough;
We'll just slow down and wait."

Epilogue—

If some kindly bureaucrat of rank
Will offer us this charity:
I'll put our whole mill in the Bank
And sell my stock for parity.

Tips for making the new

napped and sheared interlock fabrics

by J. W. Bolmeyer
Textile Fibers Department
E. I. du Pont de Nemours & Co.

Extract*

The easy-cut pullover sweater was made at Shelley Knitting Mills, Philadelphia, Pa., from napped and sheared (plush knit) interlock fabric of 100 per cent "Orlon". Velvet-soft texture, effortless laundering, and excellent shape-detention are advantages claimed for the garment.

■ DURING the latter part of 1957, European knitters and finishers developed a new knit fabric type which had a raised face or nap-like surface. These fabrics gained rapid acceptance in their market areas and eventually spread to this country. The technical service section of Du Pont has helped adapt these fabric types to American production techniques through the use of napped and sheared interlock fabrics of 100 per cent "Orlon." The raised surface, plus all the attributes of "Orlon" acrylic fiber, including brightness of color, luxurious hand, and excellent wearing characteristics, has created a new styling potential in a wide variety of end uses.

Let's examine closely the techniques utilized in producing this fabric.

Yarn Selection. To insure good results, three main points should be considered in selection of the proper yarn:

1. Turbo high bulk yarns offer the best surface for napped and sheared fabrics.

2. Yarn size should be two to four counts finer than those normally used with high bulk yarns for a particular machine gauge to arrive at correct fabric weight.

3. The lowest yarn twist consistent with satisfactory knitting should be utilized to allow for easier and more uniform napping.

Knitting. Knitting may be successfully undertaken on conventional interlock knitting machines, provided that five conditions are met:

1. Knitting cylinders must be of small enough diameter so that the split width of the fabric will not exceed 75 inches after dyeing. This is necessary because of equipment limitations in napping and shearing.

2. The draw thread between knitted sweater bodies must be knit so that it does not appear on the surface of the fabric. This is to prevent its being cut or pulled out during the napping operation. A double draw thread is usually preferred.

3. The transfer welt at the start of a sweater body must be knit flat to prevent skipping, hooking, and raveling during napping. Excessive bulk at this junction prevents the necessary close shearing continuity from sweater body to sweater body.

4. The sweater rib must be knit out to body size to minimize wrinkles in the wale direction that will otherwise occur during napping.

5. To facilitate splitting the tu-

*From paper presented before the 41st annual convention of the National Knitted Outerwear Association.

bular fabric lengthwise prior to napping, several needles on the knitting machine should be left out.

Dyeing and Finishing. The sweater blanks or yard goods should be sent to the dyer in long lengths as they come off the knitting machine. Pull-out threads connecting the sweater blanks remain intact throughout the processing. The blanks are folded or bagged into units of about 15 pounds for scouring, dyeing, and drying. Collars, cuffs, and sleeves for the units are placed in the center of the bag to insure uniform shade control. Bagged sweaters are usually dyed in a paddle machine while yard goods are most often dyed in a closed dye beck and dried as any other circular knit goods of 100 per cent "Orlon" acrylic fiber.

Various finishes may be applied in the final rinse after dyeing. A cationic softener such as "Avitex NA" provides both static protection and lubricity for good napping performance. About one per cent of "Avitex NA" on the weight of the fabric and 0.5 per cent acetic acid (56 per cent strength) are applied from a final rinse for 20 minutes at 100 F to 110 F. After dropping the bath, the goods are removed without rinsing and lightly extracted in the centrifuge.

The bagged sweater blanks are dried in a tumble dryer at a temperature no higher than 180 F. Tubular fabrics may be dried in stack dryers, loop dryers, or other similar types. To avoid the possibility of shade change, fabrics should not be over-exposed to high temperatures after drying.

The tubular material must be split following drying in preparation for napping. Techniques for splitting the material vary, depending on equipment available in each individual mill. Excellent results have been obtained with a double action napper, using successive passes until a satisfactory surface has been produced. As is well known, appearance of the napped fabric is largely dependent on the skill and judgment of the finisher.

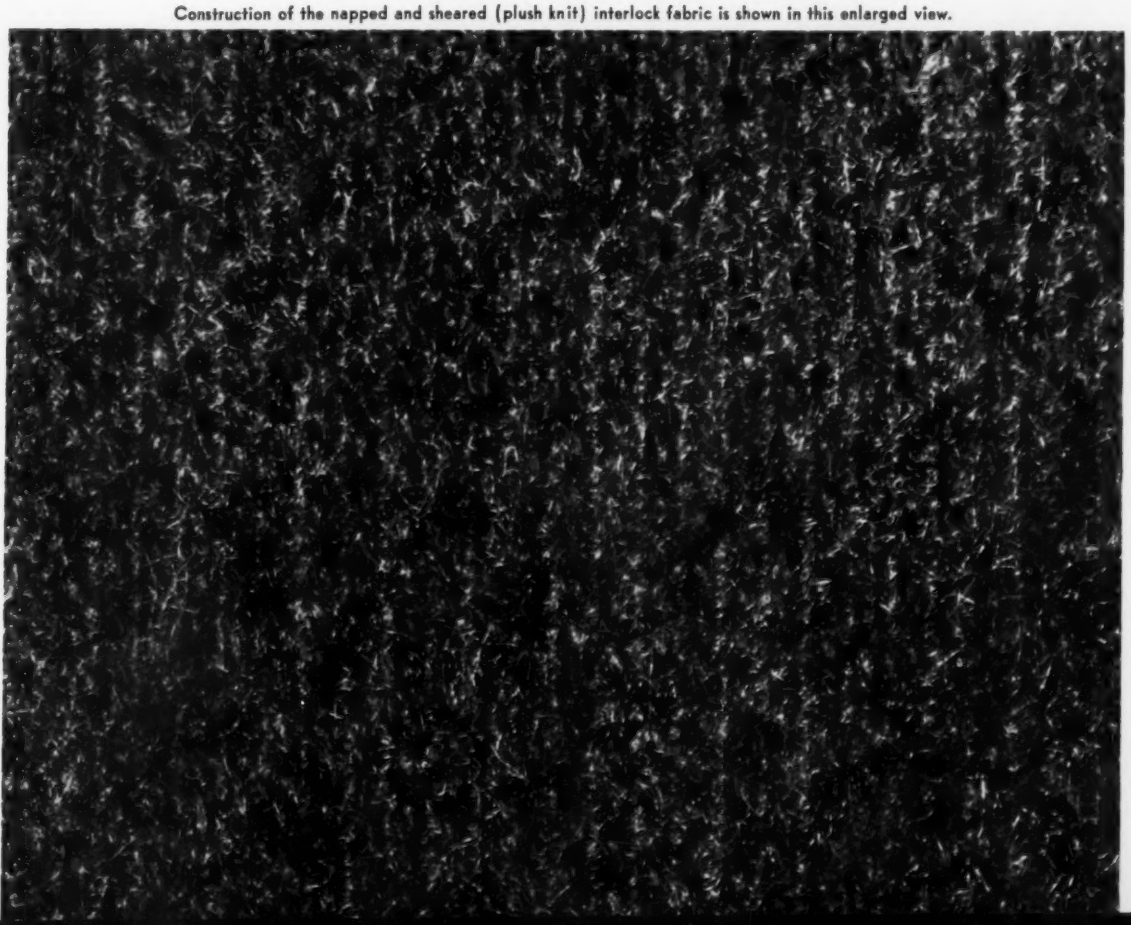
Satisfactory shearing has been obtained on worsted type shears and pile shears, both of which can be adjusted to close cutting heights.

The steam relaxing operation is highly important, since all previous mechanical actions stretch the fabric in a lengthwise direction and reduce its width. If this distortion is not removed and the fabric returned to a relaxed state, excessive dimensional change will occur when the consumer launders the garment.

A test section from each style should be washed and tumble dried to determine the degree of distortion present. Using this information, the fabric is then steam relaxed on an overfeed pin frame, adjusted to return the fabric to its intended construction. A low tension takeup, such as a frictional drive, should be used to prevent stretching.

Proper steam relaxation restores the wale and course count to the ratio for which the fabric was designed, the last step prior to cutting and sewing.

Construction of the napped and sheared (plush knit) interlock fabric is shown in this enlarged view.



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Only those fabrics that contain Avisco rayon and meet certain quality requirements of American Viscose Corporation can qualify for the Avisco Integrity Tag or as Cotron or Avron fabrics.

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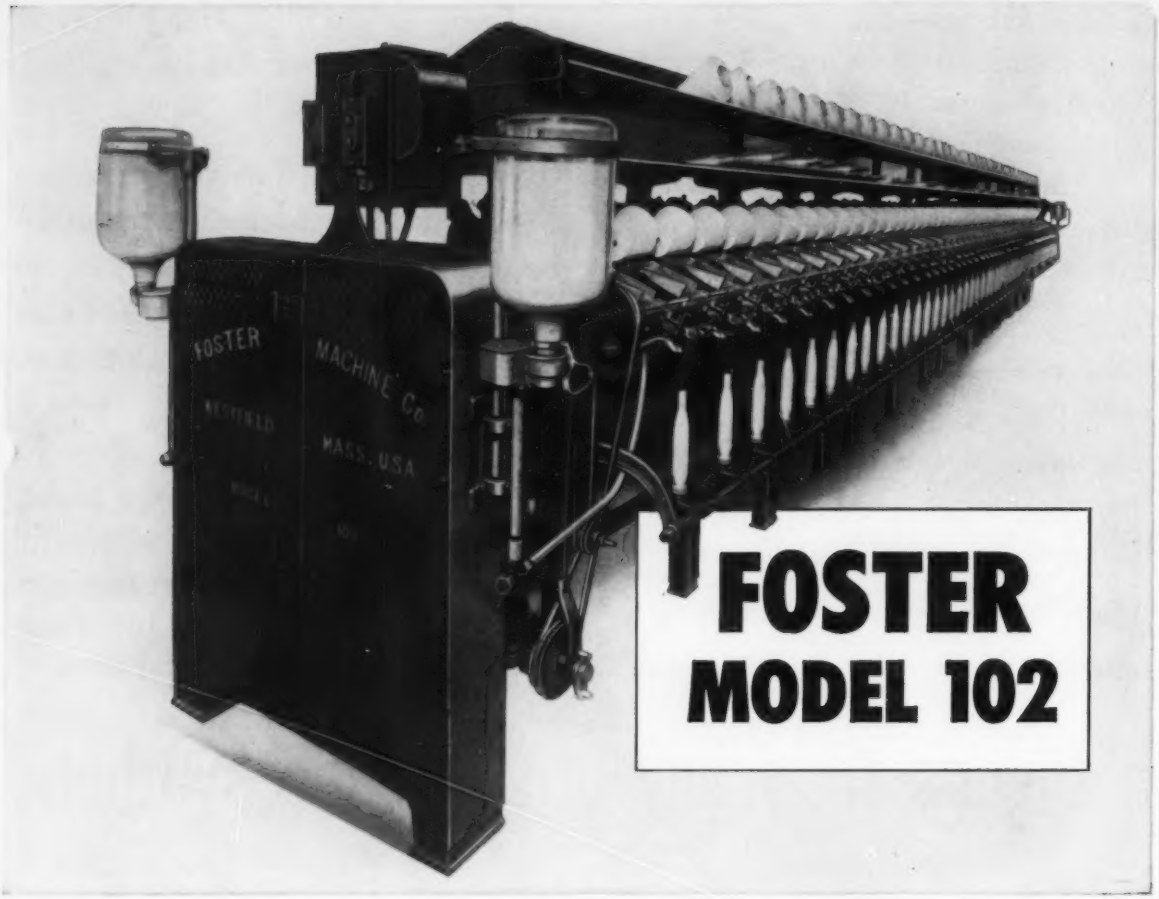
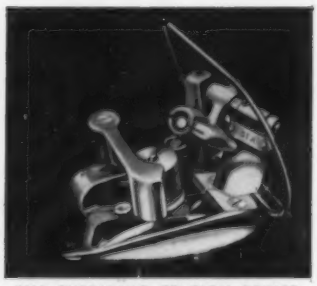


FOSTER MODEL 102

Flexibility-Economy-Quality Winding



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EASY DOFFING — HOLDER SWINGS OUT

635-B

ECONOMY FEATURES

While the Foster Model 102 Winder is widely known for its flexibility or adaptability to changing situations and for the quality of its winding, its economy features should not be overlooked. Here they are:

1. Doubles production and reduces operating costs by ⅓ as compared with obsolete machines, due to high speed, self threading tension device, easy donning and doffing, and empty bobbin conveyor discharging into standard size truck.
2. Negligible repair costs (as low as $10.00 per year per 100 spindles) because of fabricated steel head end, floor stands and sampsons; hardened steel parts where contacted by yarn; rubber boots over ball bearings on cam shaft and roll shaft, which facilitate alignment and reduce vibration.
3. Simple adjustments. Any competent fixer can make them.

Bulletin A-95-A on request.

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"to put the profit back into prosperity"

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"Profitless Prosperity"—painfully familiar to many in the textile industry—involves huge movement of merchandise, with little or no return on the profit side of the ledger. The Creslan remedy is threefold: a new product of proven merit; a policy of selective marketing; an effective system of quality control and protection. Creslan acrylic fiber is the product. Born of a magic molecule, it combines the warmth, vitality and dyeability of the natural, with the wear-strength, easy care wrinkle-resistance that can be built into synthetics. Creslan comes to market selectively. It is sold only through prestige spinners, weavers, knitters; merchandised through the great manufacturer brand names; promoted through America's top retail outlets. Supporting the integrity of selective marketing is a program of quality control noteworthy for strength and workability. The Creslan trademark is authorized for use only on finished fabrics tested and approved by Cyanamid. It is not authorized for use on products such as top, yarn, or greige goods. The Creslan trademark becomes its own symbol of quality, associated with selected outlets throughout every phase of finished goods merchandising. Creslan selling policies are original, imaginative and practical. They have been developed with one thought in mind: we want you to make money. Creslan is a product of American Cyanamid Company, New York

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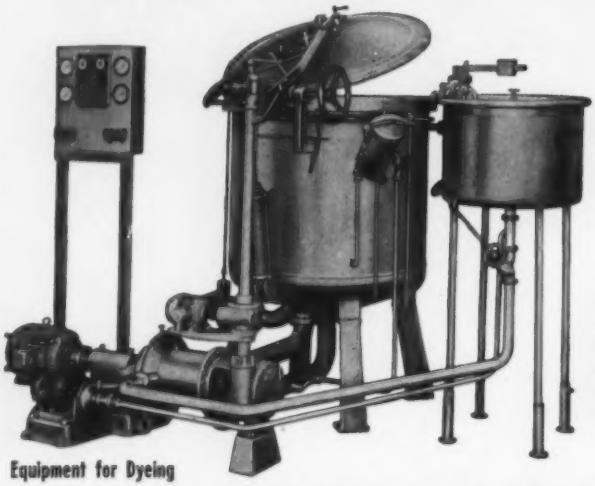

Equipment for Dyeing

PACKAGES

TOPS

RAW STOCK

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AGLIATE di Carate B. za (Milano) ITALIA

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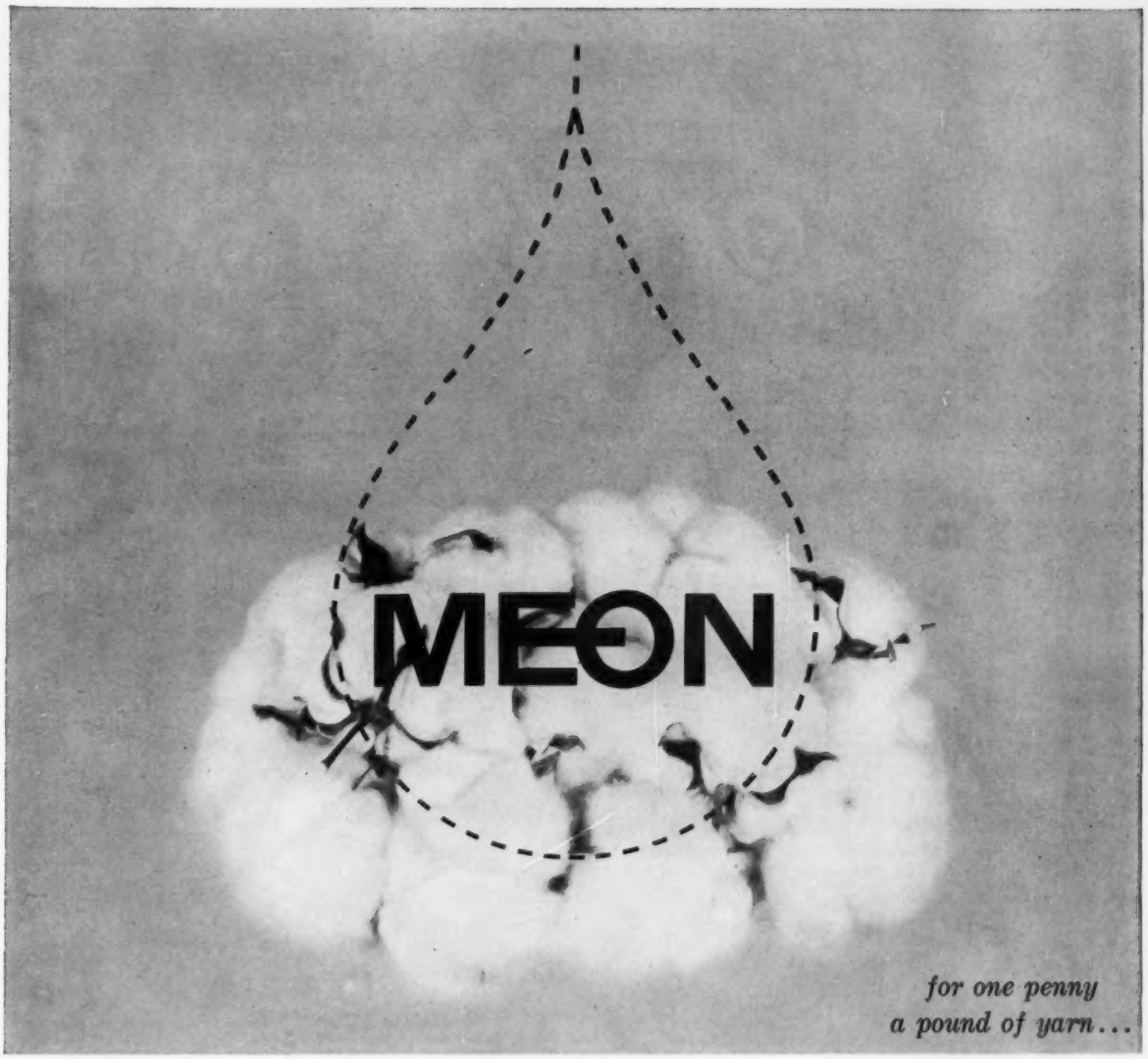
COMING IN MID-SEPTEMBER

Textile Industries 4-in-1 bonus issue for subscribers

TI's ANNUAL PRODUCT PARADE and BUYER'S GUIDE includes a review of Machinery, Equipment, Dyes, Chemicals, Fibers, Supplies, and Services offered the textile industry during the preceding 12 months. Indexed for easy reference and usage, it includes: Section 1—Raw Stock to Roving; Section 2—Yarn and Warp Making; Section 3—Slashing, Weaving, Tufting; Section 4—Knitting; Section 5—Wet Processing; Section 6—Fibers & Yarns; Section 7—Laboratory; Section 8—Services for Management; Section 9—Plant Operation; Section 10—Materials Handling & Shipping; Section 11—Suppliers' Addresses.

- Equipment Review
- Available Literature
- Sources of Supplies
- Advertising of Suppliers



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The Amazing Surfactant—*made only by* BORNE

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Whether you use a shorter staple and maintain present high quality, or use a longer staple for higher quality—MEON Treatment increases break strength up to 25%. The increase is retained in bleaching, mercerizing and finishing, where properly tailored to your mill's operation.

In addition, when you consider MEON sets the twist and controls moisture regain within close tolerances . . . has proven anti-static value under minimum moisture conditions . . . prevents mildew under all storage conditions and inhibits corrosion of equipment—you'll agree nothing works on cotton like MEON. And nobody makes MEON but BORNE.

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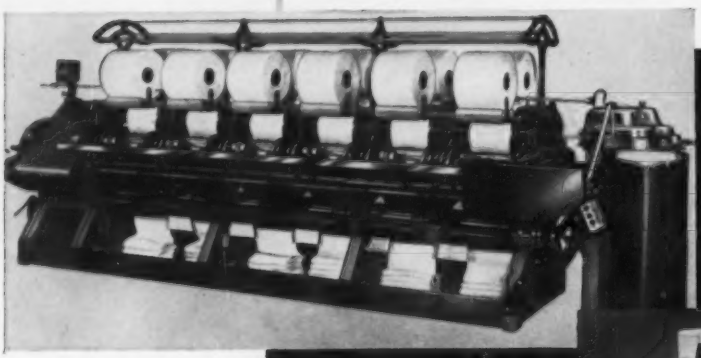
THE MOST MODERN TEXTILE MACHINERY IN THE WORLD!



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Saco-Lowell combers are double sided allowing independent operation of each side with six doublings per side.

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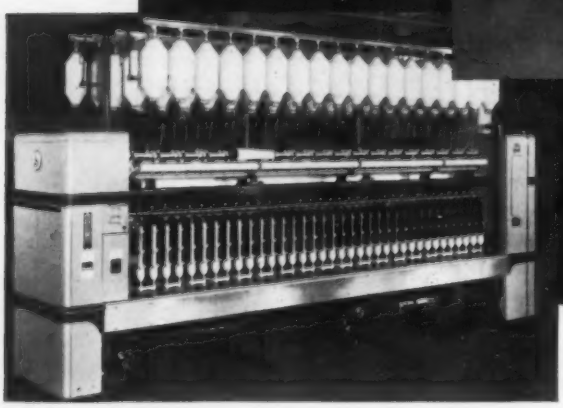
per sq. ft. of floorspace



NEW S J SPINNING FRAMES

High speed, large package frames which produce better quality, stronger, more even yarn. Unsurpassed production rates with low maintenance expense give unequalled economic advantages.

SEND FOR COMPLETE CATALOG ABOUT THESE PROFIT MAKING MACHINES

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HOW OTHERS MANAGE

How singeing affected yarn breaking strength and size

TABLE 1

Effect of Singeing on Mercerized Cotton Ply-Yarn Break and Size

Sample or skein number	Yarn size		Tensile strength (lb)	
	Before singeing	After singeing	Before singeing	After singeing
1	48.50	48.50	1.80	1.80
2	48.00	49.00	1.97	1.86
3	47.50	49.50	1.90	1.93
4	45.50	47.50	1.96	1.90
5	49.00	51.50	1.78	1.78
6	48.50	49.00	1.85	1.89
7	48.50	50.00	1.86	1.84
8	49.00	46.00	1.89	1.87
9	50.00	53.00	1.88	1.80
10	49.00	51.50	1.86	1.94
Totals	483.50	495.50	18.75	18.61
Averages	**48.35**	**49.55**	**1.88**	**1.86**

THE EDITORS:

Cotton yarn mills that singe their product sometimes are faced with the question: what effect does singeing have on the size and tensile strength of the finished product?

The data in Table 1 were obtained from 3-ply yarn that was gas singed. Ten bobbins of ungassed material were used for the tests.

They were placed, one at a time, on one burner, so that all conditions affecting the material from that one burner would affect all the units in the same way. One half of each bobbin was gassed, and both ungassed and gassed units were properly tagged.

Obviously, the burner on which the material was singed was in good condition, but average, so that the results of the test would be a true indication of what could be expected from all the burners.

A reeling was taken from each of the bobbins, gassed and ungassed, and hung up in the testing laboratory and conditioned for twenty-four hours. The testing was carried out so that all testings would be finished in one half day, so that atmospheric conditions would be the same for all the test reelings.

An examination of the averages shows that the sizings were 2.48 per cent finer after gassing, whereas the loss in tensile strength due to singeing was only 1.06 per cent.

There had been some fear that the gassing was causing an undesirable loss in strength. However, repeat tests on other units showed the changes were substantially the same as those in the table, so the material was considered normal.

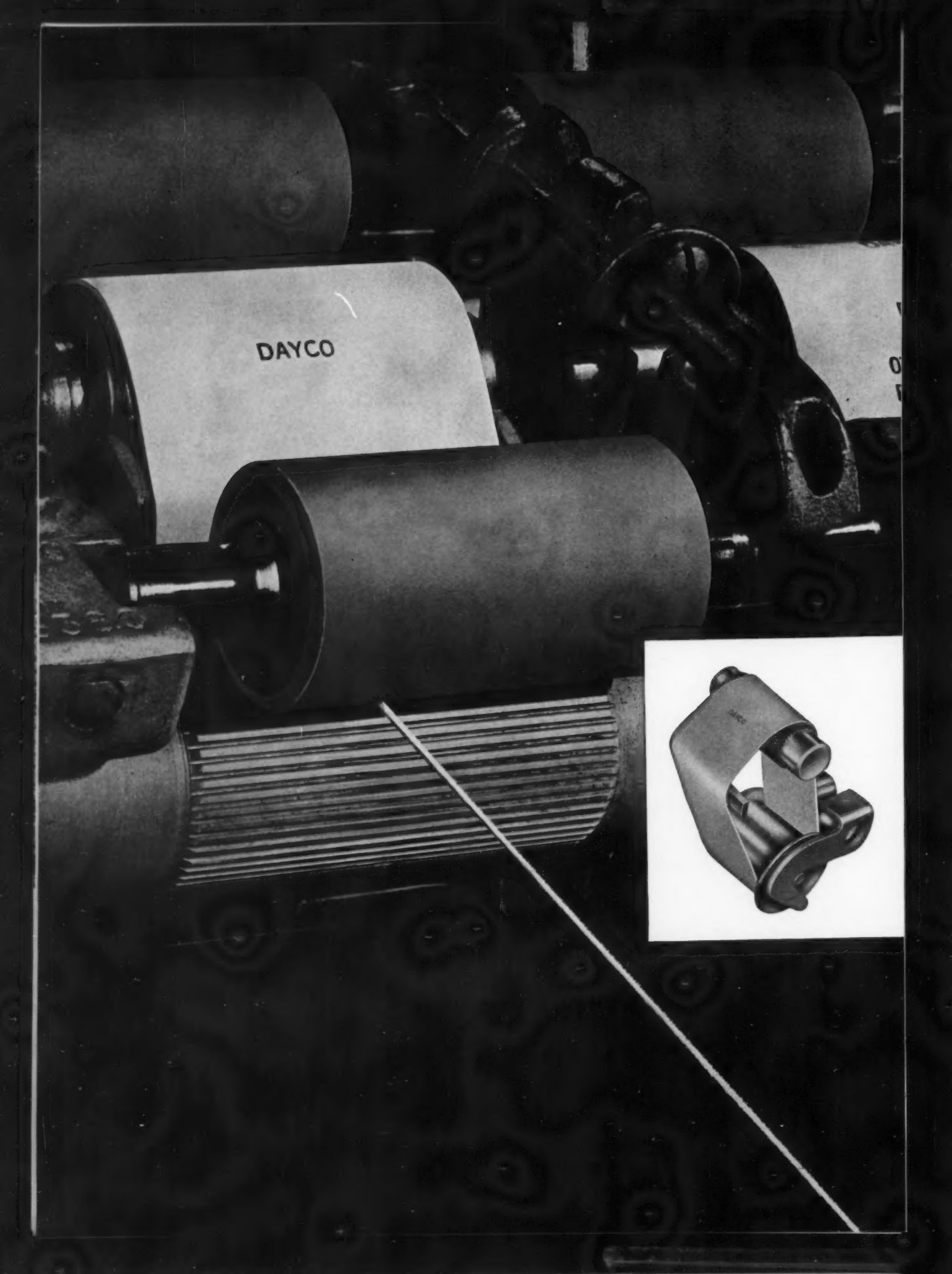
CONTRIBUTOR No. 1152

HE WON TI'S LATEST KINK CONTEST!

For his modification of an E-Model shipper lever, **Weaver D. Hilley,** 105 Baldwin Ave., Greenwood, S. C., has been awarded TI's $100 kink contest prize for the period that ended April 15.

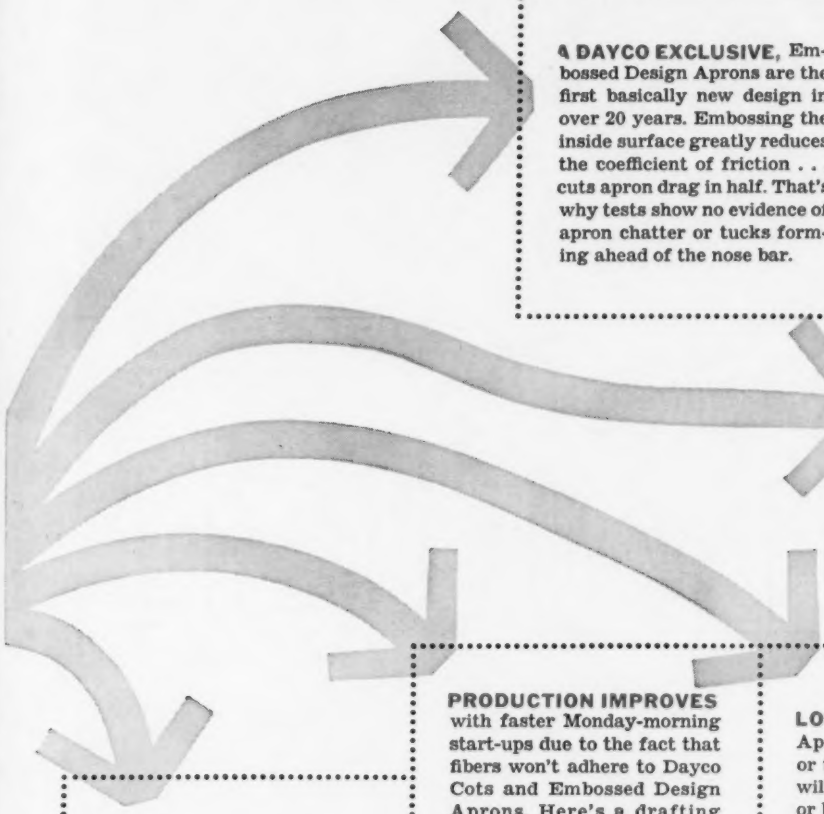
* * * * *

See page 159 for contest rules, and remember that the current contest ends at midnight August 15.


DAYCO

Dayco's Combination of Cots and Embossed Design Aprons

Increases Yarn Quality 10%



A DAYCO EXCLUSIVE, Embossed Design Aprons are the first basically new design in over 20 years. Embossing the inside surface greatly reduces the coefficient of friction . . . cuts apron drag in half. That's why tests show no evidence of apron chatter or tucks forming ahead of the nose bar.

IT COSTS NO MORE to use the most advanced apron on the market, today. Yet you'll improve yarn quality 10% and reduce waste collecting at the nose bar by 50%. That's premium performance at a regular price.

PRODUCTION IMPROVES with faster Monday-morning start-ups due to the fact that fibers won't adhere to Dayco Cots and Embossed Design Aprons. Here's a drafting combination that's unaffected by lubricants or fiber oils and one that stays dry even when temperature and humidity begin to climb!

LONGER LASTING Dayco Aprons won't curl, stretch, or take a permanent set. Nor will Dayco cots pit, groove, or become glazed in the hardest service. This long wearing combination saves you added expense and nuisance of unnecessary replacements.

FOR GREATER OUTPUT of fine quality yarn, equip your frames with the fast starting combination of Dayco Cots and Dayco Embossed Designed Aprons.

Order from your Dayco representative the next time he calls or write the Dayton Rubber Company, Textile Division, 401 S. C. National Bank Building, Greenville, South Carolina

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Preferred for 60 years
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GREENVILLE, SOUTH CAROLINA

Who makes boucle carpet by gluing corrugated yarns onto jute?

THE EDITORS:

" . . . A Danish carpet manufacturer has learned that in the United States a special type of bouclé carpet is being made by gluing "corrugated" heavy yarn on a jute backing. A highly mechanized process has reportedly been developed.

"We have tried to compile literature about this subject and to locate suppliers of the machinery which is needed for a production of such carpets, but so far we have not succeeded. . . .

"In addition we would like . . . . a list of manufacturers of machinery for making nonwoven fabrics. . . . "

(We sent him a list of nonwoven equipment suppliers. But, as the following letter suggests, we are having difficulties finding people who are using this carpet making technique. Is there a reader who can help us with this? Also, if you know of any machinery, special-built or otherwise, that is used in the process, please let us have that information too.—The Editors)

THE EDITORS:

" . . . Samples of the carpet made by this process have been made available to some [U. S. tufted textile] manufacturers by European firms. . . . However, to our knowledge, there is no commercial operation of this kind in the United States. After due consideration of the process and the resulting product, our manufacturers did not feel it was up to the standards they desired. . . . "

Tufted Textile Manufacturers Association

An Italian views the textile picture in his home country

THE EDITORS:

The Italian textile trade, thanks to low costs and good design, used to export about 35 per cent of its cotton goods output, sending it principally to the Balkans, the Far East, South America, etc. Since many of those markets are practically closed now, exports have fallen to a mere five per cent and the competition in the internal market has become very keen.

Of the 5,000,000 spindles in place, only 4,000,000 are in operation; of the 105,000 looms, only 84,000. Consequently the firms which intend to remain in the trade are compelled to renew (modernize), and there is a sort of revolution going on now comparable to the one that took place in the United States after 1930. Modernization in the cotton branch follows generally this line:

In the blowing (opening) room, mills are installing, or have installed, one-process equipment. However, since most mills have as many as five or six different cotten qualities, mixing stacks have been retained. Everybody is trying to do a better cleaning job, but there is still a great difference of opinion on how to obtain it.

Carding speeds are generally reduced to improve the web quality. There is a trend toward adoption of semi-rigid clothing for cylinders and doffers and toward the use of rigid clothing on the flats. But there are still doubts about the opportunity (advantages) of such a change.

Drawing must be completely new or rebuilt with a modern drafting system capable of giving an irregularity of no more than 2.2 per cent U if even yarns are to be spun without doublings. This is not an easy task!

Most of the existing spinning frames in Italy have a four-roller draft system, and the present trend is toward changing those systems to double-apron drafting ones fitted with appropriate anti-friction bearings. The changeover is made, including substitution of stands, for $7.00 to $8.00 per spindle and the result presents a drafting possibility of 30 on carded yarns and of 40 on combed stock. The system also improves greatly short-term irregularity.

In this way mills are able to spin coarse, and even medium

KINK CONTEST!

$100 will be awarded the winner
Send your entry now! This contest ends August 15, 1959

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, August 15, 1959.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send you contest entry to: The Editors TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.

counts (32s for instance) from 0.8 to 1.00 rovings, employing the old fly frames. On the medium and fine counts a 1.50-hank roving is generally sufficient, so there is no longer need for very long drafts on the intermediate frames.

The mills working with aprons are compelled to adopt traveling cleaners, an implement unknown here only a few years ago. Suction cleaning, too, is becoming general practice.

Since each cotton spindle pays a tax of about $7.00 per year, there is a tremendous trend to increase the spinning speed, and ways have been developed for adding a movable balloon-control ring which permits a speed increase of 20 to 30 per cent. These cost about $3.00 or $4.00 per spindle.

The tax is 1.004 lire for every working hour, and this amounts to $0.00161 times 16 hours per day times 300 working days per year, or $7.728 for each spindle per year. When this figure is corrected for the 30-minute shift interruptions daily and for the actual working days per year (habitually less that 300) the figure is closer to $7.00.

The tax, levied in 1948, has been ruinous indeed for too-old or too-young mills. For instance, when in 1947 I returned from communist Rumania with only my luggage and my six children left, I tried to set up a small 1200-spindle mill with old machinery, and the tax killed the enterprise within two years!

But since the tax is charged back on the yarn sold, calculated on a theoretical production corresponding to a spinning speed of 6,000 to 7,000 rpm, a modern or modernized mill is able to save 20 to 30 per cent of the tax, collecting from his customers more than he pays for the tax itself. This is my reason for saying that it is more important for an Italian mill to attain high spinning speeds than to increase job loads.

So, spinning job loads are kept comparatively low, from 700 to 1500 spindles per operative including creeling duties.

Pay is about $800 per year for a woman and about $1000 per year for a man. But after insurance, taxes, etc., have been deducted, the take-home pay is only about 55 per cent of the original.

In weaving, also, practically everyone is trying to reduce costs. Practically all the looms now working on cotton are automatic.

While there is never a shortage of work in wool spinning, the cotton trade is very depressed and there are large mills to be bought at a small price, mills that are well positioned and with plenty of trained labor available and sometimes with their own water power! Still, the future may be much brighter than the present gloom. Let's hope!

Indeed, with the coming of European Common Market, Italy, with her abundant skilled labor and low costs, could become again the export country it has always been. The northern countries specialize in more difficult and specialized works and shrink from the "unhealthy" cotton work.

We can expect a great measure of development in the realms of man-made fibers and blends that used to be too expensive for the comparatively poor national market. Those fibers are being produced here, and since there is a continuous improvement underway in our living standards, there is no doubt that the fibers will expand a great amount in the near future.

CONTRIBUTOR No. 1173
(Italy)

Devote more planning to inspecting and packing

THE EDITORS:

Inspecting and packing of any product are essential processes, but as they are normally classified as "non-productive" they frequently do not receive the planning they deserve. Very striking economies in time, money and labour can be achieved by careful planning and it is probable that a useful improvement in quality and reduction in waste will be obtained as a result of the improved handling methods devised.

The truth of the above claims is illustrated in the case history of yarn packing and inspecting which follows.

Bleached and dyed yarn of many different blends are processed for the weaving and knitting industries and they are normally required in the form of cones. These must be wrapped in paper and then packed for transport in cartons, wooden cases or wicker skips, depending upon the destination and the customers' wishes.

The original route for the yarn after cone winding was from the winding frame to an internal transport skip containing a fixed number of packages. This was then trucked on a bogie [cart] to the packing room.

Here each cone was inspected for uniformity of shade and quality of packages—e.g. firmness of build, shape of cone, freedom from distortion, etc. Any solid yarn was trimmed from the outside, and if the package now matched the control sample it was wrapped in the tissue paper and dropped into the container for dispatch.

When a number of wrapped cones had been thus treated the packer/inspector built them into a firm layer in the carton or case and then continued to inspect and wrap. When the container was full it was handed over for closing by banding, nailing or tying. It was now ready for labeling, weighing, and dispatching.

Some of the cones might be too soft or too hard or of poor shape. The inspector would carry these back to the foreman of the winding department who in turn would have them rewound and sent back for inspecting and packing. Besides the wasted time of operatives this frequently delayed shipments and incomplete orders had to be left unsealed until the missing packages came forward.

The multiplicity of handling was undoubtedly responsible for soiled packages and much yarn had to be stripped from the surface of cones to ensure blemish-free packages being wrapped.

Everyone reading this description will probably have his own

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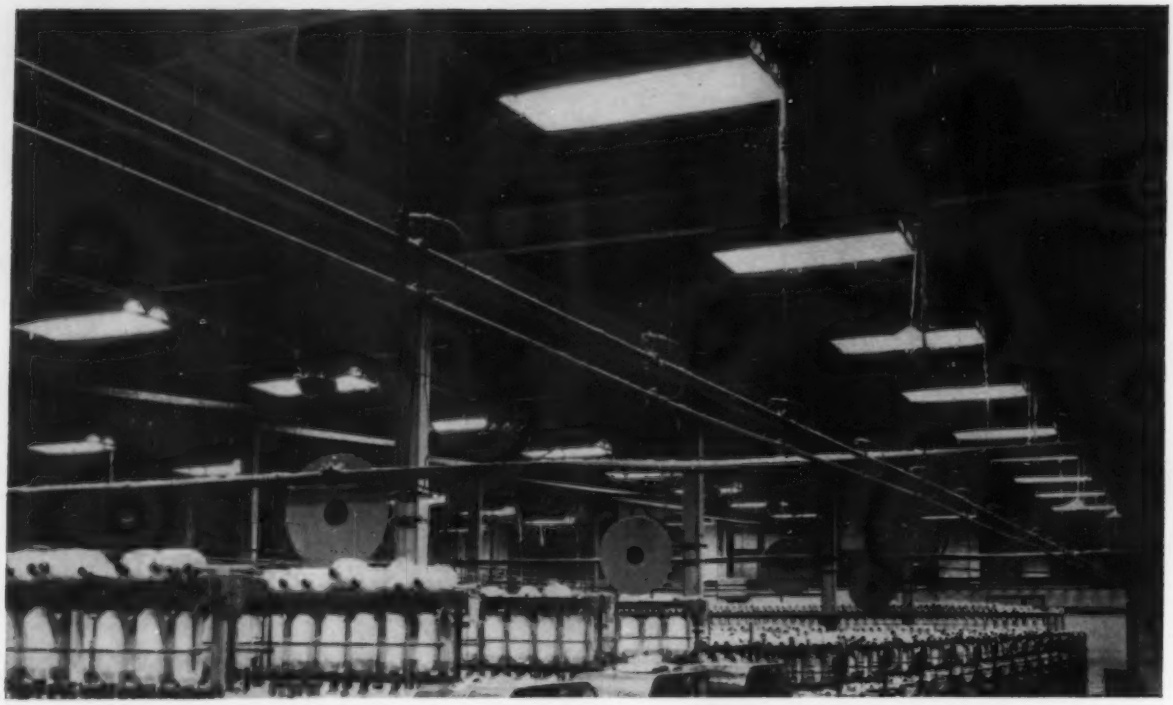

You can't afford to let your mill walls

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views on the possible improvements that could be achieved and on wasted operations to be eliminated. The actual steps which have been taken are given below. They are considered to be the most practicable ones and have certainly reduced the cost of inspection and packing by approximately 40 per cent.

They have also shortened the time to transfer the yarn from the winding frame to the transit case. Finally the reduced handling has almost eliminated hand stripping of soiled yarns from the cones demonstrating clearly that a high proportion of the soiling took place during internal handling and transport operations.

The wound cones of yarn are lifted from the frame on to a mobile creel rack with 60 pegs (equivalent to the ends attended by each operative). When the rack is filled it is passed to the inspector whose sole job is checking quality. Any faulty packages are immediately handed back to the winder for re-processing.

A rack of yarn packages which has been approved has a white disc affixed to the top by the inspector. The cones of yarn are now each covered with a paper bag—no handling of the cone necessary—and the open end tucked into the cone.

All this is done in an air conditioned room supplied with clean air. As a result any soiled yarn is most unusual, and the yarn is completely protected by the bag wrapping. The rack is now wheeled to the packing room where male operatives quickly transfer the wrapped packages to the containers, fasten them, weigh and label.

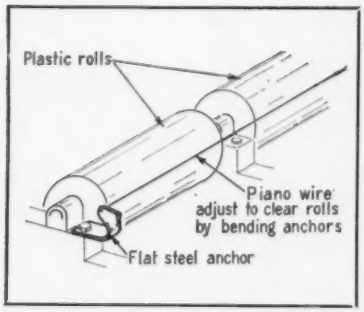
The whole process now flows smoothly, incentive bonuses can be applied to the separate operations, and customers are receiving quicker deliveries of better quality, more effectively wrapped and packed yarn.

CONTRIBUTOR No. 1153
(England)

THIS KINK CONTEST PERIOD ENDS AT MIDNIGHT 15 AUGUST 1959

GET YOUR ENTRIES IN THE MAIL NOW!

Music wire prevents lap-ups on winders



THE EDITORS:

In the winding room, whether yarns are being wound from spinning bobbins or from cones (rewinding), and especially on coarse, soft, knitting yarns, there are frequent lap-ups on the winding or traverse rolls. When these occur, the fixer must stop the winder and cut and pick off the lap before that end can be returned to production. Usually this is a five- to ten-minute task.

When the winder is stopped the cones automatically lift and knock off. These must be restored to production one at a time after the lap is removed, requiring another ten minutes. These laps occur worst when the room atmosphere is very humid.

To prevent 95 per cent of them install a No. 14 music wire behind the traverse roll (see illustration). A bent piece of flat steel mounted at about every tenth delivery, closer if needed, and notched or drilled to hold the wire will enable the music wire to be positioned close enough to the rolls to pick up loose ends and prevent their wrapping. A small eyebolt can be used to supply wire tension.

The system is used with success on Foster 101 and 102 and on Universal Roto-Coners. If there is skepticism about possible wire damage to the plastic traverse rolls, plastic wire up to ⅛" diameter, or ½" spinning tape, can be used in place of the music wire.

CONTRIBUTOR No. 1165

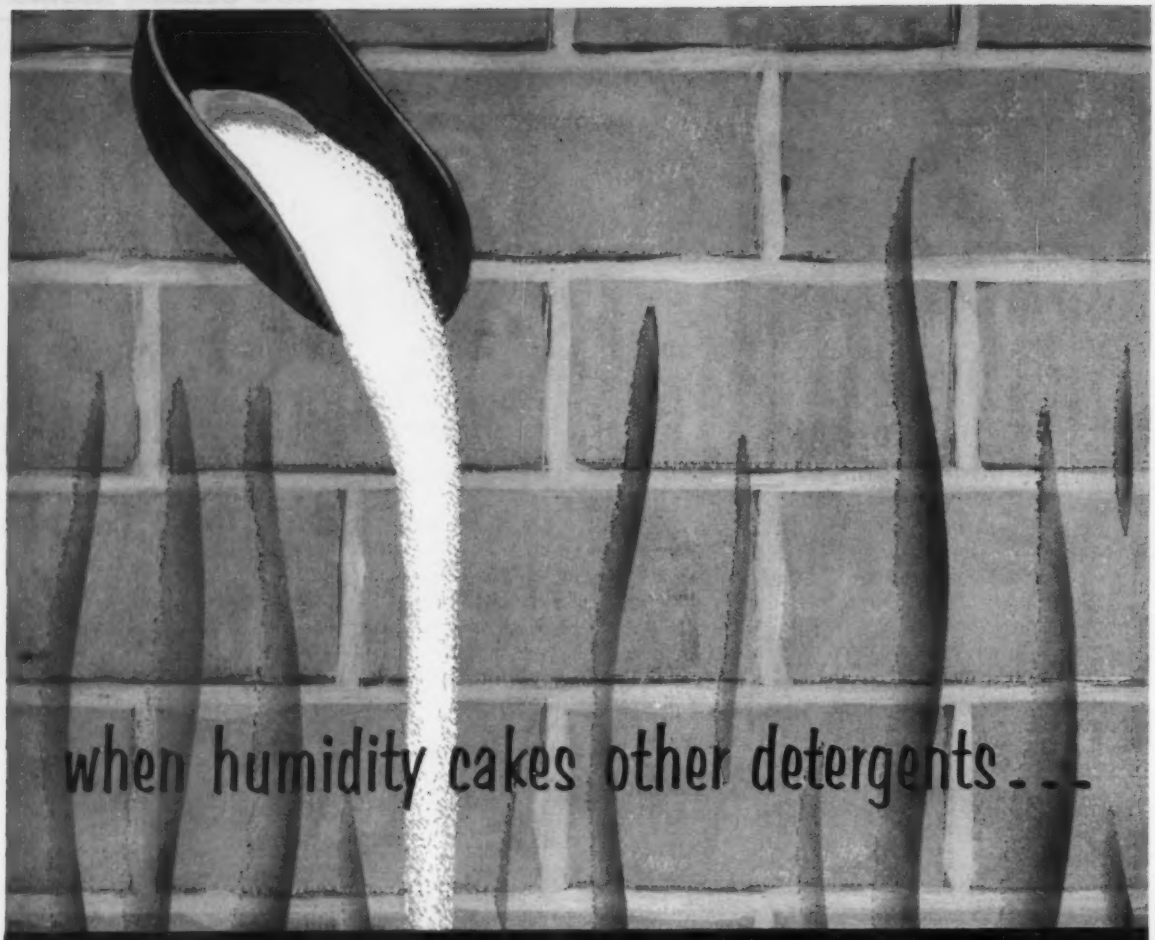
Another way to prevent resin build-up on tenter clips

THE EDITORS:

Referring to the question "How Do You Remove Resin from Tenter Clips?" submitted by CONTRIBUTOR No. 1109 in the February, 1959, issue, p. 175, I suggest attaching cloth wipers.

At the end where the clips leave the cloth being processed, fasten on the machine frame a piece of heavy cotton cloth (two or three ribbons of approximately 4-5" wide) and let them keep in contact with the clips. Only one end of the strips need be secured.

The length of these ribbons or strips of cloth should be about 50" to 60" long. The resin will be removed while still hot, and at the same time will remove excessive accumulation of oil which



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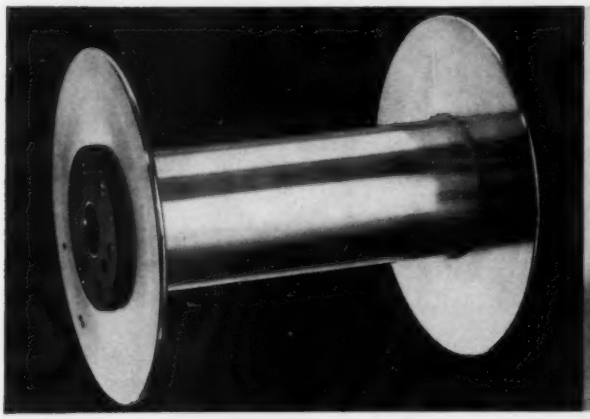

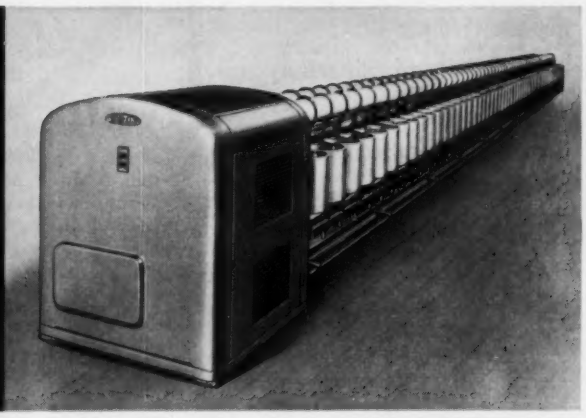

Some 3500 aluminum spools are now saving money for one rug manufacturer on equipment such as this Whitin Cable-King Uptwister, manufactured by the Whitin Machine Works, Whitinsville, Mass. In addition, the aluminum spools were 25% less costly than the previously used spool material.

Mills find multiple benefits by using lightweight pressure-resistant aluminum spools in Whitin's ring and uptwisters

FASTER SPEEDS: Helps attain increase in operational speeds of up to 50%.

LARGER PACKAGES: Improved technology implemented with aluminum spools makes it possible to produce packages up to 10 lbs. of yarn. This permits production of cones of equal size of plied yarn without a plied splice.

GREATER ECONOMIES: Larger packages reduce splices by 66%, thereby stepping up efficiency of subsequent processes including tufting and weaving.

A typical application of aluminum spools is the special Whitin *Spoolmatic* Winders and *Cable-King* Uptwisters which have increased carpet yarn production by up to 50%. This equipment now brings to makers of twisted yarn everywhere all the benefits of this new multiple ply process formerly enjoyed only by tire yarn producers.

The lightweight spool itself is true, sturdy and pressure resistant. It was developed by Engineered Plastics, Gibsonville, N. C.—through the close cooperation of Kaiser Aluminum. It's another outstanding example of the production advantages and economies which more and more textile companies are realizing with aluminum.

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REDUCE YOUR NEP COUNT!

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MILL TESTS SHOW:

Nep count reduced 40%

Blending improved substantially

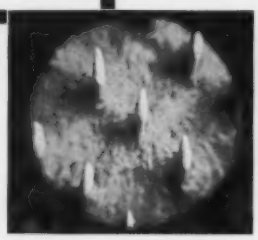
Yarn strength up 10%

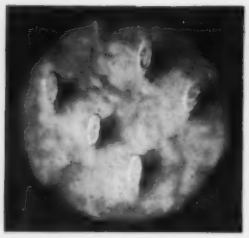
Grinding 80% less frequent

Grinding time less than 30 minutes (normal 6-8 hours)

Stripping 65% less frequent

Booth card clothing may now be obtained with a **new and exclusive** extra sharp needle point. With your first purchase of this new clothing, the MICR-O-GRIND head is available so that you can regrind it yourself.





Note needle point from MICR-O-GRIND (left) compared with conventional flat point (right). Extra sharp MICR-O-GRIND points card out the neps and reduce the nep count as much as 40% on cotton. Sharper points also allow stock to release itself—hence less loading—and also give greatly improved carding action. Stripping of cotton cards only once a shift—on woolen cards as little as once a month.

Grinding discs are spiraled to take off the heel of each tooth. MICR-O-GRIND head fits your conventional grinding shaft.

HOW IT WORKS

MICR-O-GRIND card clothing is ground with spiral abrasive discs that take the heel off the wire. Accuracy of initial grind is assured by exclusive Booth electronic monitor controls. This leaves a needle-like point, long recognized as ideal for card clothing. *Never before has this ideal been attained.* Conventional grinding invariably leaves a flat point because no way was known to grind the teeth to a perfect point.

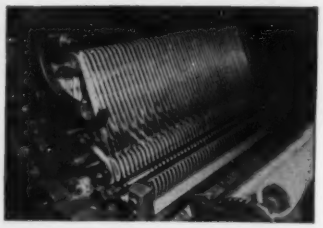
IMPROVED QUALITY

The needle point of the teeth holds the fibres long enough to be thoroughly carded and yet does not tear the fibres. This provides a more gentle combing action for increased yarn strength, better blending and reduces neps by as much as 40% in cotton carding.

Needle point is smooth enough to release the stock easily, yet the fine serrations (as seen under a microscope) will not let the fibres escape without being carded. This also means that there is less beating action at the doffer comb as the web flows more readily off the card.

REDUCED COSTS

through reduced Down Time for grinding and stripping. MICR-O-GRIND clothing is very inexpensive—only 5% more. The MICR-O-GRIND needle point can be applied to any type of card clothing—the only difference is the point. In a cotton mill, you can get your standard 100's, 110's, etc., in either CCWC, CWC or rubberfaced foundation—also any woolen clothing.



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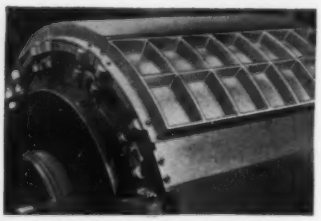
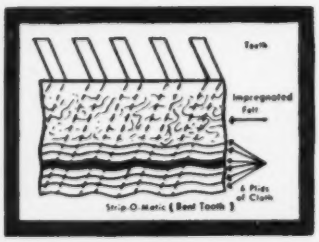


BOOTH offers GRAN-O-TOP—SRRL Granular Card Top Conversion complete unit. Gain the advantages of this new method of carding. Write today for full details.



STRIP-O-MATIC—clothing greatly reduces stripping waste, down time and costs.

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Booth

might come from guiding roller A.

The contributor did not explain what type of resins he is mostly using in the finishing process. Much depends on whether the resin is thermoplastic or thermosetting. If it is thermoplastic the residues can be removed by using some organic solvent, such as acetone or any

alcohol, which will soften up the residue for cleaning.

But if the resins used are thermosetting, the problem is practically unsolved. One could, of course, help the situation by using some dilute acidic solutions which will soften the resin, but the acid eventually will attack the clips. With such resins scrubbing is the safest method.

CONTRIBUTOR No. 1129

Who can make it?

(Note: Over the years several readers have asked us to devote a section of this magazine to an exchange of ideas—other than the tested ones appearing in How Others Manage—that require treatment beyond the present scope of this department. In response, we are beginning such a section with the presentation of the items that follow. They have been chosen to represent the type of work this new section is to perform.

Join in the fun. As long as your idea has merit and dignity, send it along to us for evaluation, even if it does seem a bit too far-fetched for serious treatment.—The Editors)

THE EDITORS:

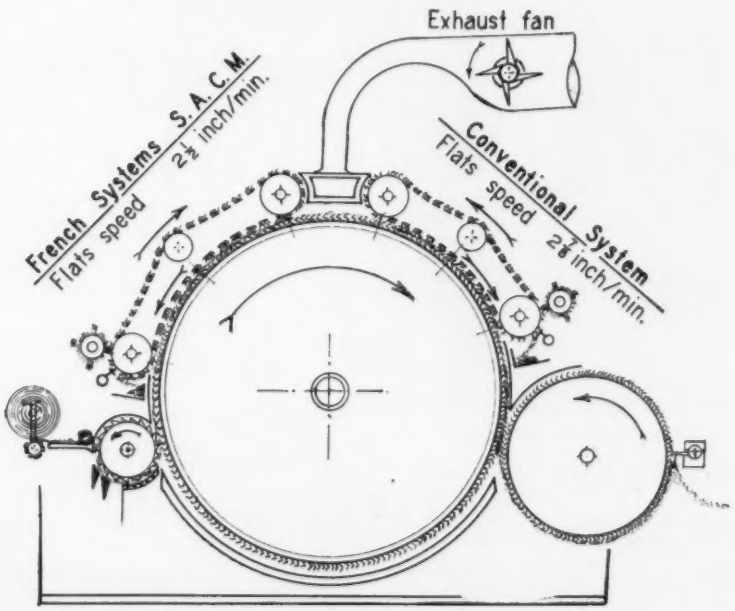
This is an idea for equipping a cotton card with two sets of flats, moving in opposite directions. Such an arrangement would offer a two-fold advantage:

The rear set of flats, near the feed, driven according to the system of the Societé Alsacienne de Constructions Mécaniques (France), has the principle advantage of immediately removing the large impurities from the stock. being carded.

The front set removes the impurities left by the first or rear set, and being conventional it needs no explanation.

As the drawing suggests, the two systems each use different speeds and settings and should combine to give better carding than can be produced by either system taken singly. The card can be equipped with an exhaust fan to remove the dust which normally would be thrown off into the card room atmosphere. The exhaust speed, however, is critical and must not interfere with good carding.

CONTRIBUTOR No. 1169



THE EDITORS:

A major problem in mills finishing tickings is that of keeping the filling threads straight across the cloth during tentering and calendering operations. Several anti-bow and variable speed gadgets are in use but none is entirely foolproof.

This problem can be licked by covering the steel driver rolls on the roll-up machines with a rubber or cork surface. The trick is to find a covering that will wear well and will be replaceable and will not expand with the high cloth temperatures encountered.

Such coverings have been tried in our mills and work beautifully for about two days. Expansion then loosens the covering and it no longer is usable. Who can make a covering to beat this problem?

CONTRIBUTOR No. 1174

THE EDITORS:

. . . I feel that it is only a matter of time before the conventional tapered roving bobbin will be replaced with a double-head spool or bobbin similar to the old type of twister spool.

Advantages would be increased package size and complete elimination of tangled roving.

In this instance we believe we know several approaches to achievement of such a package, but we do not have the time nor the facilities to develop the ideas we have on it.

CONTRIBUTOR No. 1175

Prefers old method of lining and leveling

THE EDITORS:

Contributor No. 1101 (TI for April, 1959, p. 172) recommends adjustable roller stand brasses be used, and I do not agree with him. On any stand such adjusting screws will work loose and become "knuckle busters" to the men who try to tighten them.

After more than fifty years of overhauling, fixing, and inspecting card room machinery, I hold that a better way is to tighten the stands and line and level the frames to keep those rolls in line. Brasses that are not too badly worn may be shimmed to bring them up to the proper level, or brasses that are too worn may be replaced in full sets without too much expense. A single brass insert that remains too low may be built up in the welding shop and then worked down to the proper level by the overhauler. I believe this is better than weakening the roll stands by drilling them for the adjusting screws.

CONTRIBUTOR No. 1145

Simplified marking of knit fabrics

THE EDITORS:

For a long time we used stamps and pads for putting our numbers on the tabs we sewed to the ends of our knitted fabric rolls as we doffed them. The pads were messy —lint stuck to them and had to be cleaned off each time ink was added, and the stuff always got on the knitter's fingers.

We adopted a marking pen which is pictured here being used to write knitter and machine numbers on one of the white tabs.

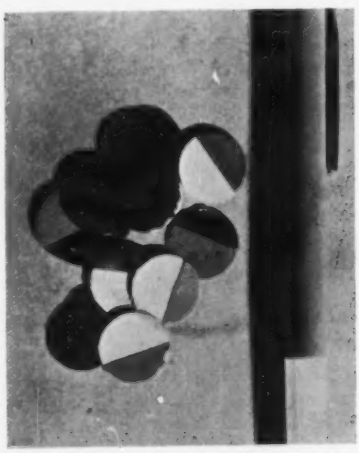
The tabs are sent to the knitter with the numbers 104, 21, and 19 (or some such necessary digits) already stamped on them. It is up to the knitter to further identify the cloth with knitter and machine numbers. This he now does with the pen, which is reissued as needed upon surrender of an empty one. The ink does not wash out, and there is absolutely no muss to the process.

THURSTON POWELL

Who makes roving bobbin tabs?

THE EDITORS:

Would you please tell us of a source of supply for the attached roving bobbin tabs. On our worsted system we require these in assorted colors and we insert them in our roving bobbin heads in holes ½" in diameter and ⅛" deep to act as identification for roving sizes and quality.



Tab size is suggested by ball-point pen.

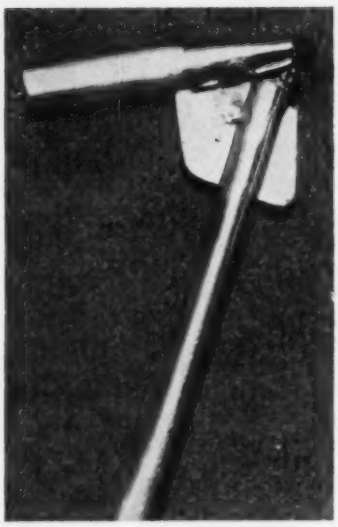
CONTRIBUTOR No. 1166

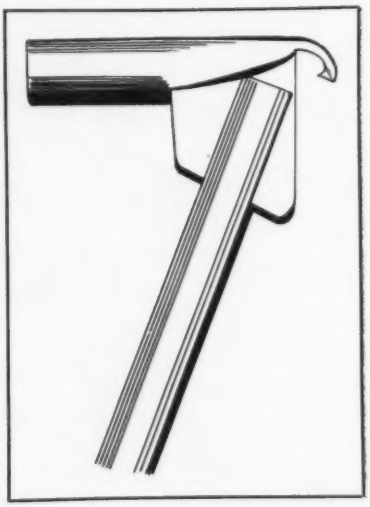
(Can you help us?—The Editors)

Prevents dropped filling ends

THE EDITORS:

The filling end removers on C & K looms can easily be modified in the plant shop to prevent their dropping the filling. A small tip is brazed onto the original hook to act as a barb as shown in the accompanying illustrations. The tip is about ⅛" in diameter at its base and roughly approximates a cone ⅛" high.





CONTRIBUTOR No. 1144

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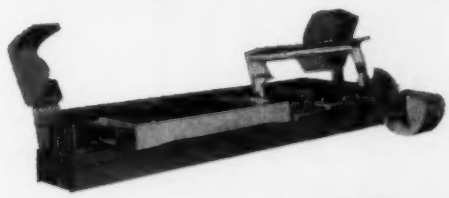
Some Features:

Individual Vacuum Cleaners
Individual Motors Individual Drives
Electro-Magnetic Clutch
Electric Knock-Off Actions
Ball Bearing Spacing Sections
No Shafting, Flat Pulleys, or Belts
The Famous Feathertouch Action
—produces highest quality sliver—at over 400 ft. per min.
Frames can be operated singly or in multiples



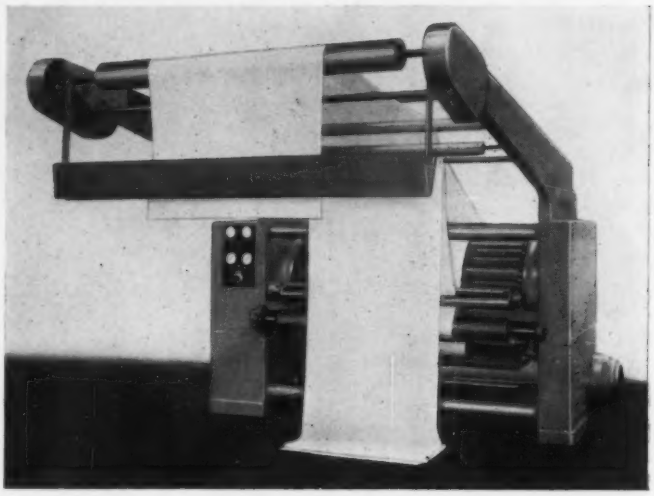
These are the only parts of the original frames which are used and they are completely reconditioned and refinished. You get the complete IDEAL frame as shown above at left, ready to run upon arrival at your mill.

Ideal Industries, Inc.
Bessemer City, N. C.

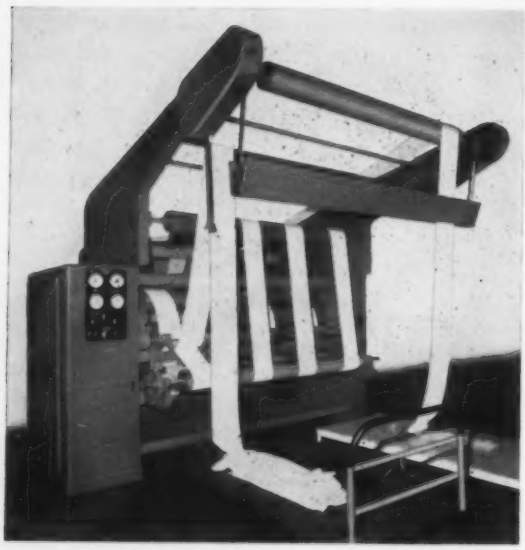
THE ORIGINATORS OF HIGH SPEED DRAWING

A Gessner Hi-Torc Combination Knit Goods Napper sets production records and does the work of two different types of nappers

Mills napping flat knits such as nylon, rayon and orlon loop fabrics, or synthetics such as orlon interlocks and nylon tricots on their Hi-Torc Combination Knit Goods Nappers, are getting up to 4½ and 5 times the production of former nappers.



Double Acting Hi-Torc Combination Knit Goods Napper



Hi-Torc Napper with Turners for Tubular Knit Goods

The versatility of the Combination Hi-Torc, being able to change from a standard knit goods napper to a standard double acting napper, with only three man-hours of work, gives a mill the profitable advantage of finishing any fabric with a minimum of napping equipment. The Combination Hi-Torc owner stands ready to nap whatever fabrics the market demands, at lower cost and with less idle napping machine time.

May we give you some specific examples?

Southern Representative:
Richard A. Herard , 222 Piedmont Bldg., Greensboro, N. C.

Western Representative:
E. G. Paules & Co., 1762 West Vernon Ave , Los Angeles, California

Canadian Representative:
W. J. Westaway, Montreal, Quebec; Hamilton, Ontario

DAVID GESSNER CO.
WORCESTER, MASS.

NEW PRODUCT PARADE

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.

Plastic bags protect sliver, preserve moisture

Storage of top and sliver in bags or "sleeves" made of Visqueen polyethylene film (see accompanying illustration) not only protects the stock from contamination by fibers of other colors and types and from damage, but it also helps to keep uniform the moisture content of the fiber.

Another textile mill use of the versatile film is as separators on winding machines, etc., to prevent spoiling adjacent packages when an end breaks.

Plastics Div., Visking Co., Division of Union Carbide Corp., 60 5th St. and Oak Park Ave., Chicago, Ill.

Do you want more data? Write ◂ or use card on page 187; list H-101

Slasher roll reveals broken ends, saves starch

A new slasher roll for both squeeze and dressing roll positions is covered with a distinctive bright red synthetic rubber compound which permits faster and easier detection of yarn end breaks. Developed especially to control the pick-up of size, the cover material has completely uniform finish and density. A substantial saving in starch costs is an advantage resulting from the complete control of finish and accurate metering of sizing.

Another feature of the roll, which may be used when processing all-cotton yarns, cotton and man-made fiber blends, and man-made fiber yarns, is its cushioning effect with indentation. Roll end caps prevent metal corrosion between cover and metal core.

The covering, which may be reground to extend its life, has very high resistance to starches, gums, softeners, oils, chemicals, and synthetic finishes.

Raybestos-Manhattan, Inc., Manhattan Rubber Roll Div., 61 Willett St., Passaic, N. J.

Do you want more data? Write ◂ or use card on page 187; list H-102

Loom binder cover unaffected by room conditions

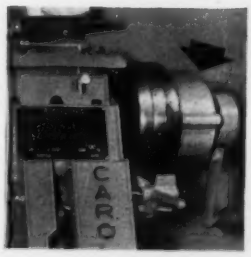
A synthetic loom binder material now available has very good abrasion resistance, is not affected by humidity and temperature changes, does not have to be broken in, can be scribed, and is flexible. Being a manufactured material, it also offers these advantages: (1) dimensional stability can be controlled so that only a minimum number of adjustments are required and (2) quality is uniform.

Called CN889, the material is a composition of cellulose fibers, ground cork, and synthetic oil-resistant rubber compacted or densified under heat and pressure.

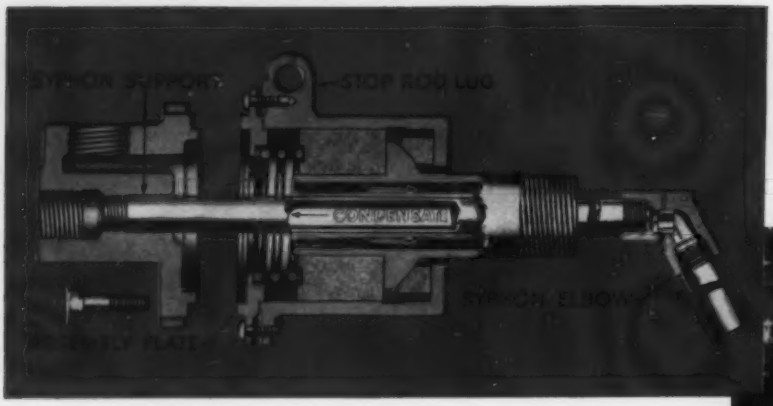
Armstrong Cork Co., Textile Dept., Lancaster, Pa.

Do you want more data? Write ◂ or use card on page 187; list H-103

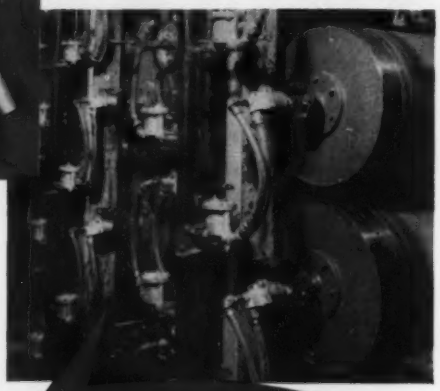
Stops "reversal-shock" on circular hose machines



Less needle breakage, fewer smash-ups, and better control of precision movements on main drum and rack wheels are benefits to be derived by using the new "Southern Slow-Down" attachment on circular hosiery knitting machines. Cam adjustments stay more accurate longer. Better control of yarn laps and easier clutch-



TYPE S-B2P Johnson Joint with Syphon Elbow. This is a completely self-supporting unit, and like all Johnson Joints has no packing, needs no lubrication. Installation picture shows Type S-B2P Joints on dry cans in southern mill.



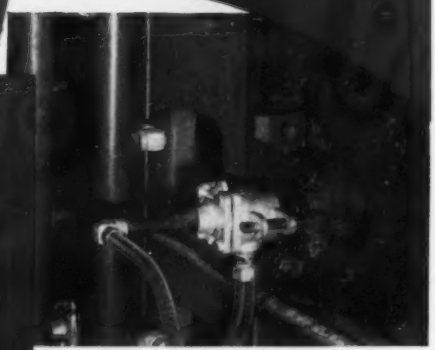
Best thing that's happened in a long time ...for Dry Cans, Slashers and Print Cans

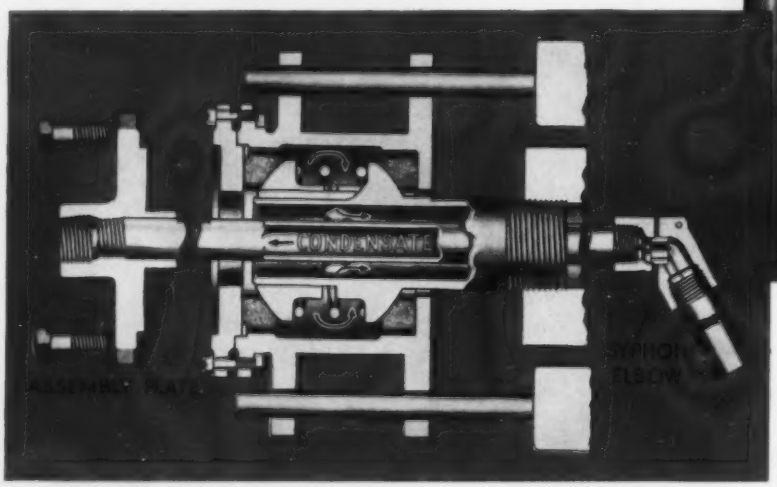
What's happened is this. To match the efficiency of the Johnson Joint for getting steam into cans and rolls, Johnson has developed a mechanical syphon elbow for the job of getting condensate out again. It permits the use of two straight pipes for the syphon pipe . . . is hinged to pass right through the joint . . . seats of its own weight when in position. A special assembly plate is provided on the joint to permit removing the head, and syphon pipe, without disassembling the joint.

Try it yourself—Thousands of installations have proved the two combinations shown are particularly suited for the textile industry. Whatever your needs, we will gladly furnish a pair of units for 90-day trial in your own mill, without cost or obligation.

Write for full information

JOHNSON *Rotary Pressure* JOINTS with JOHNSON SYPHON ELBOWS





TYPE LJ Johnson Joint with Syphon Elbow. Has lugs on body for support rods, which carry all weight of body and connections, permit rotating assembly to "float" freely inside. Steam inlet is in side of body, as shown in installation view.

THE JOHNSON CORPORATION

815 Wood Street, Three Rivers, Michigan

Rotary Pressure Joints • Direct Operated Solenoid Valves

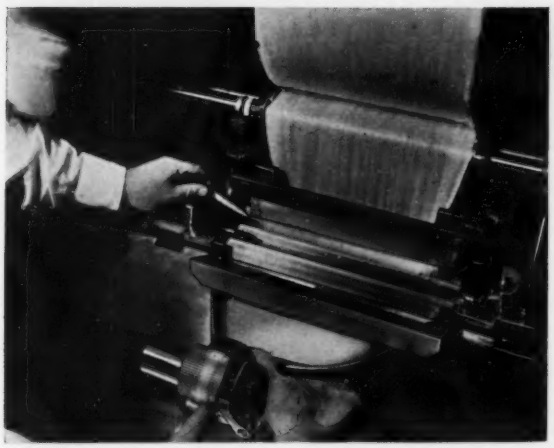
ing are other advantages.

Mounted between the pulley and handle of the machine, the compact and easily installed device prevents abrupt direction change when the machine goes into reciprocating cycle at heel and toe. It actually reduces the speed to 60 rpm from 195 or 200 rpm almost instantaneously, without shock or "back lash."

Southern Mill Equipment Corp., 508-14 W. 5th St., Charlotte, N. C.

Do you want more data? Write ◂ or use card on page 187; list H-104

How to increase output of Whitin J, J3 combers



By equipping present Whitin Model J and J3 combers with certain features of the Super J which are available as changeovers, the older machines can process heavy laps (up to 1000 grains per yard and in some instances heavier) and produce up to 55 pounds per hour.

The changeover consists of installing a new nipper frame assembly, with an elevating action beaded cushion plate, feed roll plate, and nipper knife. New 1¼" diameter detaching rolls and appropriate gearing are also required, and new waste chute covers.

Whitin Machine Works, Whitinsville, Mass.

Do you want more data? Write ◂ or use card on page 187; list H-105

Air dryer ups production, assures uniform moisture

The "SP" high-velocity air dryer can increase productivity by drying fabrics several times faster than conventional dryers, and will at the same time dry the fabrics more uniformly.

Hot air is supplied through individual dryer heads—separate curved ducts installed side-by-side across the width of a dryer roll around which the cloth passes. Each may be lowered or raised independently to control impingement of air on the fabric. Supply air can also be regulated according to moisture condition of the fabric opposite it.

A console near the machine controls drying at each head; the console and dryer can be set up for automatic operation.

Straight-path air drying is also available, permitting application of air on both sides of the fabric.

J. O. Ross Engineering, Division of Midland-Ross Corp., 730 Third Ave., New York 17, N. Y.

Do you want more data? Write ◂ or use card on page 187; list H-106

For General Use buy

RIDGID

Heavy-Duty Pipe Cutters

Factory tested for perfect tracking, here's your best cutter buy for hand use. Extra-long shank protects threads, gives fast, easy adjustment. Large handle for sure grip . . . more leverage. Strong, special malleable frame won't bend or warp. You'll also need the RIDGID Wide-Roll Cutter, that tracks perfectly at high power-drive speeds, and the RIDGID 4-Wheel Cutters, that give quick, clean cuts in tight places with only quarter turns.

Five Sizes for ⅛" to 6"

For Tubing and Thin-Wall Conduit buy

RIDGID

Tubing Cutters

Five Sizes for ⅛" to 4"

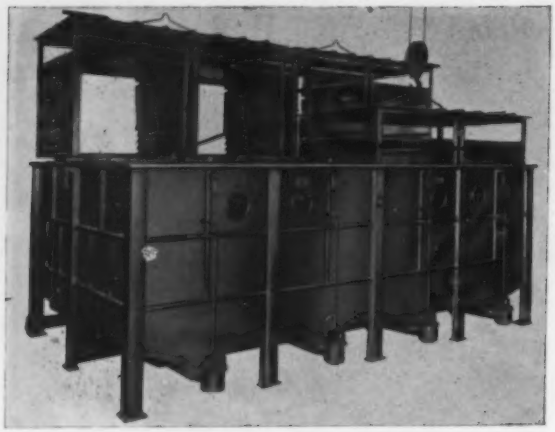
Exclusive fold-in reamer on Nos. 10, 15 and 20 protects hands and pockets . . . reams full cutter capacity. Single thin-blade wheel gives quick, clean cuts. Rollers smooth tubing ready for soldering.

Only special No. 315 is 3-wheel cutter for fast cuts in hard-to-get-at places.

There's a RIDGID Cutter to save you time on every job. Call your Supply House today!

RIDGID

The Ridge Tool Company • Elyria, Ohio, U.S.A.



Skein dye machine provides uniform liquor flow

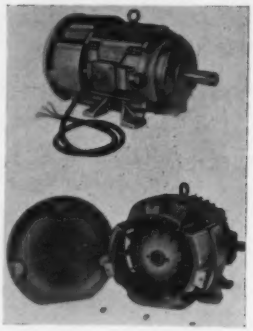
Because of the very uniform liquor flow in the Ilma 1,000-lb skein dyeing machine for use with wool, spun nylon and rayon, and high bulk "Orlon," level dyeing is insured. At the end of the dyeing cycle the yarn is lofty and does not appear stretched or beaten-up.

The pump is driven by a three-speed pulley, thereby allowing various flows for different types of yarns. The carrier has nine different stick positions, permitting skeins of different lengths to be dyed, as well as allowing for bulking action of the high bulk yarns.

Regent Machinery Corp., 110 W. 40th St., New York 18, N. Y.

Do you want more data? Write ◂ or use card on page 187; list H-107

Well ventilated textile motor is also safe



The Type KZCN textile motor is a completely new polyphase induction motor design, adapted specially for the textile and related industries. Available at present in the rerated frames 326U and smaller, this totally-enclosed, fan-cooled motor incorporates a unique ventilating system and enclosure as well as special treatment of air passages through which airborne lint is carried freely.

The multi-vaned fan and dual purpose fan-shield allow lint laden air unrestricted passage without clogging. The fan guard design not only protects the operator from rotating parts, but eliminates the need for air inlet openings or baffles in the end of the motor. The absence of such openings increases both safety and flexibility in the application of this motor and reduces possibility of choked air passages.

The large multi-vaned cooling fan provides adequate cooling, even under adverse conditions, by forcing a large volume of cooling air over the frame. The fan as well as the fan guard have been specially designed to eliminate pockets and protrusions which might act as lint collectors.

Fairbanks, Morse & Co., 600 South Michigan Ave., Chicago 5, Ill.

Do you want more data? Write ◂ or use card on page 187; list H-108

LOCKWOOD GREENE PROJECTS IN...
TEXTILE FINISHING

Lockwood Greene has completed projects in the Textile Industry valued at over three-quarter billion dollars and offers highly specialized engineering services in all phases of Textile Manufacturing including Textile Finishing.

Kendall Mills,
Finishing Division of Kendall Co.,
Bethune, S. C.
A new cotton finishing plant, finishing the cloth produced by The Kendall Cotton Mills Division, which operates seven plants in North and South Carolina. It has approximately 300,000 sq. ft. of manufacturing and storage space.

CONTINUOUS MANAGEMENT SERVICES FROM SITE SELECTION TO PLANT COMPLETION
LOCKWOOD GREENE ENGINEERS • ARCHITECTS
BOSTON 16, MASS. 316 Stuart Street
NEW YORK 17, N.Y. 41 East 42nd Street
SPARTANBURG, S.C. Montgomery Building
OVER A CENTURY OF INDUSTRIAL PLANT EXPERIENCE • BROCHURE AVAILABLE UPON REQUEST

Zero tension in stretch yarn winding

A yarn delivery device for the Schweiter Monofil-Coner and the Vario-Coner reduces the tension of stretch yarns or other highly elastic yarns such as rubber to almost zero in winding from hanks to crosswound or pineapple cones.

The device is driven from the winding apparatus, making possible the simultaneous running of the delivery rollers and the cone. If there is an entanglement in the hank, the yarn between the delivery device and the cone remains slack.

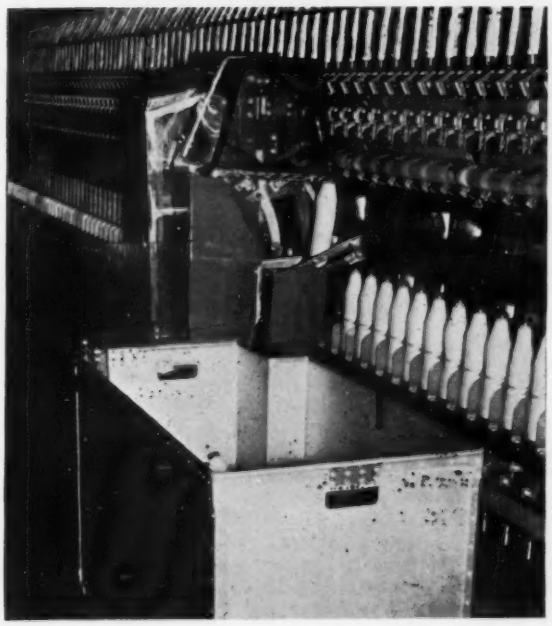
While at zero tension, the yarn can be oiled if necessary; it then runs through the tensioning device, bringing it up to the desired degree of tension.

Yarn speeds of 330-440 yd/min are possible with the device.

H. J. Theiler Corp., Whitinsville, Mass.

Do you want more data? Write ◂ or use card on page 187; list H-109

Automatic doffer soon pays for itself



Now commercially available is an automatic doffing device for use on all types of spinning frames and twisters which will pay for itself in less than one year with savings in labor and increased production. Called the "Auto-Doffer," it is built by Kanegafuchi Machine Mfg. Co., Ltd., of Osaka, Japan.

In Japan the device is successfully and completely automatically doffing 400-spindle frames in less than two minutes. Rate of yarn breakage in doffing averages from 30 to 50 per cent less than by hand doffing. By gripping only the top ¼ inch of the bobbin or tube itself, the device permits filling them more than is possible when hand doffing is utilized. There is no possibility of damaging or "sloughing" the yarn as with hand doffing. Damaging or bending spindles is minimized with the unit.

Basically, the automatic doffer consists of a separate unit which attaches to each side of the frame being doffed. Each unit automatically travels from one end of

SAVE HEADACHES AND SAVE MONEY

With Proved Universal Treatment of Fibers!

Applied mechanically by a spray type pump at hoppers or pickers, UNO X-1 will save you both headaches and money.

Lint and fly are controlled and the inside of your machinery is kept much cleaner.

A three week trial will convince you that UNO X-1 keeps products heavier at each process, keeps work running better throughout the mill and makes for a lower grade of waste.

Our experienced personnel can install UNO X-1 for cotton, UNO R-2 for synthetics or UNOSTAT, a nylon anti-static, in your mill with no confusion whatsoever. Write or call for details today.

UNIVERSAL
FIBER TREATMENTS, INC.
P. O. BOX 645 MACON, GEORGIA
Phone SHerwood 6-2107

TC TENNESSEE CORPORATION

LIQUID SULFUR DIOXIDE FOR EFFECTIVE REMOVAL OF Residual Chlorine

SO_2 accomplishes the following—Acidifies alkaline hypochlorite making it easier to wash out. Reduces chlorine to the harmless valence minus one (Cl^{-1})! Leaves fabric acid free. Tennessee's Liquid Sulfur Dioxide is also very effective as a reducing, bleaching and neutralizing agent, and pH control.

LIQUID SULFUR DIOXIDE HIGHEST QUALITY SO_2

Available In:
• CYLINDERS • TANK TRUCKS
• TON DRUMS • TANK CARS

We would like to consult with you on the possibilities of Tennessee's Liquid Sulfur Dioxide in your processing

TC TENNESSEE CORPORATION

TENNESSEE CORPORATION
617-29 Grant Building, Atlanta, Georgia

the frame to the other, supported by two guide rails fixed to each side of the frame at speeds of 17 to 25 fpm.

Both portable and permanently-mounted models are available. The latter is recommended for yarns which doff quite frequently with one unit mounted on each frame.

Edward S. Rudnick, Representatives, P. O. Box 244, New Bedford, Mass.

Do you want more data? Write ◆ or use card on page 187; list H-110

New fibers and yarns

Adhesive-finished rayon yarn. For reinforcing mechanical rubber goods, a new adhesive-finished, high-tenacity rayon yarn, called "Super Cordura" Type 272-F, is available. The adhesion provided makes fabric dipping unnecessary, reduces the cost of processing, decreases inventory requirements, and eliminates need for adhesive-dipped fabrics with short shelf life. Closer control of fabric construction is possible. Retention of adhesion when wet is 40 per cent greater. Higher yarn friction, with consequent improved package stability for quill winding and more stable fabric for easier calendering, is another advantage.

Textile Fibers Department, E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

Do you want more data? Write supplier or use card on page 187; list H-201

Glass yarns coated with Teflon are available for covering of wire and for high temperature insulation applications where maximum abrasion resistance, chemical inertness, and minimum water absorption qualities are mandatory. Available in white, black, red, green, blue, orange, and yellow, the yarns are supplied unsintered only and are thermoplastic, exhibiting only a slight degree of flow when heated to about 620 F.

Chemo Products, Inc., West Warwick, R. I.

Do you want more data? Write supplier or use card on page 187; list H-202

"Orlon" fiber designed for blending with cotton or rayon is designated Orlon Type 25 acrylic fiber. Three major properties distinguish it from Type 42: (1) lower fiber shrinkage, (2) significantly improved initial whiteness, and (3) improved whiteness retention for the unbleached product. The new fiber can be processed in the same manner as Type 42, and its dyeing characteristics are likewise similar. Among end uses for it are woven and knit underwear, broadcloth and poplin dresswear, work clothing, sport shirts, slacks, and suiting fabrics.

Textile Fibers Dept., E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

Do you want more data? Write supplier or use card on page 187; list H-203

A new polyester fiber, Vycron, is available in four types: (1) filament yarn, (2) staple, (3) tow, and (4) direct spun yarn. Applicable for use in apparel fabrics, the product is already being used in blends with cotton, wool, and other man-made fibers.

North American Rayon Corp., 261 Fifth Ave., New York 16, N. Y.

Do you want more data? Write supplier or use card on page 187; list H-204

An improved Tyrex viscose tire yarn is now available in preliminary commercial quantities in 1100 denier, 1650 denier, and 2200 denier. High quality and great strength are features.

American Enka Corp., 530 Fifth Ave., New York 36, N. Y.

Do you want more data? Write supplier or use card on page 187; list H-205

Doff box eliminates filling rehandling

A new spinning frame doff box that is designed to hold from two to six sides of filling may when full be taken directly to the weave room for use by battery filling personnel, eliminating rehandling of the yarn. The empty bobbin container is, of course, detached in the spinning room before the loaded box is moved to the weaving department.

Battery filling is less fatiguing when the truck is used, since the slope side floating bottom with which the unit is equipped causes the filling to slide back to the operator and become readily accessible.

Fisher Mfg. Co., Inc., Hartwell, Ga.

Do you want more data? Write ◆ or use card on page 187; list H-111

Checks tension on yarn at warper and loom; cloth too

The tension on a piece of cloth during processing and warp tension during beaming and weaving may be quickly and accurately determined with the Web Tension meter which was recently placed on the market.

By cocking the trigger of the instrument (like a gun) the two outer guide rollers are lowered for insertion of the meter into the side of the cloth or warp. When the trigger is released, the outer reference rollers are returned to test position where they lift the textile material against the sensing roller in the center. The latter is linked to a mechanical gear train which rotates an indicating hand over a dial facing the observer.

Tensitron, Inc., Harvard, Mass.

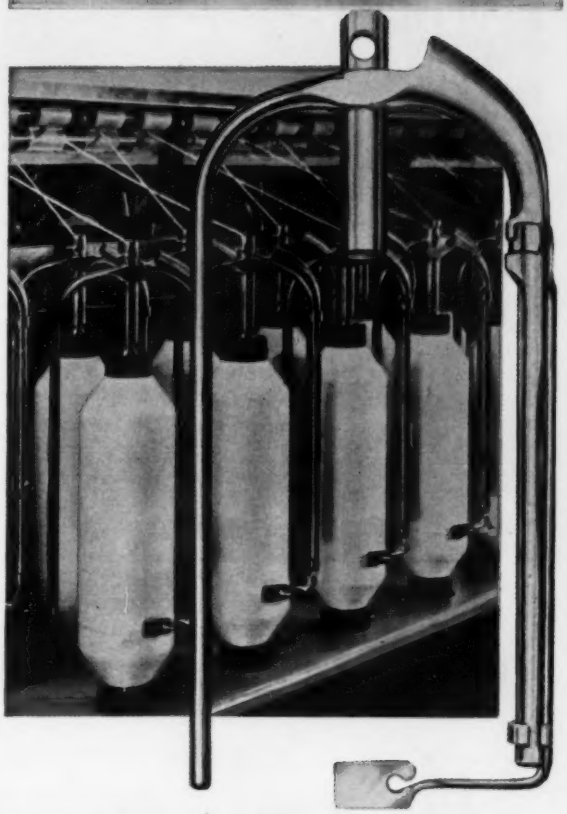
Do you want more data? Write ◆ or use card on page 187; list H-112

Viscosity indicator and indicating controller

To provide viscosity control at a lower cost for applications where a permanent record is not required, the Norcross Viscometer Indicator and Indicating Controller was developed.

The apparatus is for use with the Norcross basic measuring elements which operate on the principle of measuring the time required for a piston to fall a given distance through the solution

15 to 25% INCREASE
IN WEIGHT OF ROVING—
WILL PAY FOR ITSELF IN
7 to 24 MONTHS



MAIER PRIMA FLYERS

HEAVY CONSTRUCTION OF SHOULDERS . . . prevents spreading — allows you to extend width of flyer to the maximum permissable by the gauge of your frame.

HIGH POLISH . . . especially in throat and hollow leg—prevents "eye browing" and insures high quality roving.

NOTCHED THROAT . . . puts false twist into roving back to the front roll—preventing excessive ends down.

DESIGN OF DROP PRESSER . . . the gentle angle of the roving as it leaves the hollow leg and starts to wind around the presser finger prevents the breaking away of fibers from the roving.

DYNAMICALLY BALANCED . . . every flyer is balanced at maximum operating speed within a tolerance of ± 3 grams.

HARD CHROME PLATED FINISH . . . special anti-rust and anti-corrosive finish that will withstand corrosive action of synthetic fibers.

Location of Slot in eye of the presser finger makes threading almost automatic.

TEXTILE SUPPLIES W D USED MACHINERY
Watson & Desmond
P. O. BOX 1954 • CHARLOTTE, NORTH CAROLINA

KEEP MACHINES RUNNING

...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

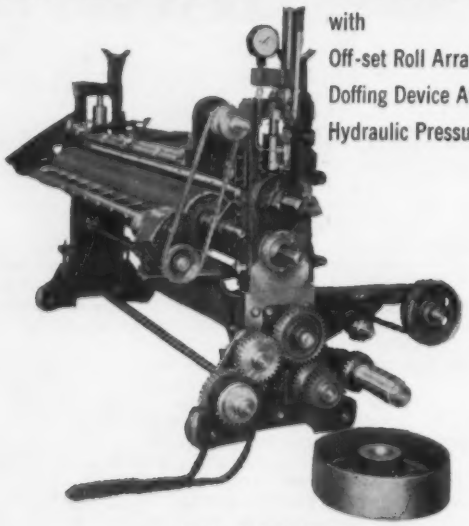
See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

Write today for full details and prices.

DEUBLIN COMPANY

1931 Stanley St., Northbrook, Ill.

NEW "LIGHTWEIGHT" PERALTA® MACHINE



with
Off-set Roll Arrangement
Doffing Device Attachment
Hydraulic Pressure

Write for information.

Duesberg-Bosson of America, Inc.

Main Street Jefferson, Mass. P.O. Box 25

to be measured.

The indicator and indicating controller can be located any reasonable distance from the measuring element and can be furnished with high and low viscosity alarms.

Norcross Corp., Newton 58, Mass.

Do you want more data? Write ◂ or use card on page 187; list H-113

New finishes and chemicals

A new wash-and-wear finish for shirting and similar cellulosic fabrics is durable to repeated commercial launderings and overcomes the problems of tensile loss and odor and chlorine retention. Called Resipon NDC, the water white liquid is a new type of cyclic formaldehyde thermosetting resin.

Arkansas Co., P. O. Box 210, Newark 1, N. J.

Do you want more data? Write supplier or use card on page 187; list H-206

Oil-repellent finish for wash-and-wear fabrics. "Scotchgard" brand stain repeller, a finish that can withstand both laundering and drycleaning, enables fabrics to repel dust and dirt and both oil-borne and water-borne stains ranging from salad and motor oil to melted butter, milk, soft drinks, and alcoholic beverages. Invisible and odorless, the finish can be used on virtually any fabric—washable, wash-and-wear, or drycleanable.

Minnesota Mining & Mfg. Co., 900 Bush Ave., St. Paul 6, Minn.

Do you want more data? Write supplier or use card on page 187; list H-207

A new softener for resin finishes. Atcosoft XP, gives excellent bath stability, and finishes produced with this cationic softening agent possess good resistance to yellowing from heat with no tendency to develop odor.

Metro-Atlantic, Inc., Centredale 11, R. I.

Do you want more data? Write supplier or use card on page 187; list H-208

A wax for wet processing. "Sonowax" 3450, when used in production of wash-and-wear and crease-resistant cotton and synthetic fabrics, increases tear strength, abrasion resistance, and crease recovery. It lubricates and minimizes friction between threads to provide improved wear, better "sewability," and reduced needle cutting. The nonionic antistatic material is a valuable aid in glazing, embossing, and schreinering. It also serves as a softener and plasticizer for starches and various types of warp sizes, imparting "slickness" for higher weaving efficiency.

L. Sonneborn Sons, Inc., Textile Chemicals Div., 300 Fourth Ave., New York 10, N. Y.

Do you want more data? Write supplier or use card on page 187; list H-209

Eliminates static on carpets. "Stat-Eze" is designed to overcome static accumulation on carpets without contributing to dirt pick-up. Available in a ready-to-use solution or as a water-soluble powder, the product is easy to apply with either a low-pressure sprayer or a sponge. A single spraying lasts for three to six months depending on traffic.

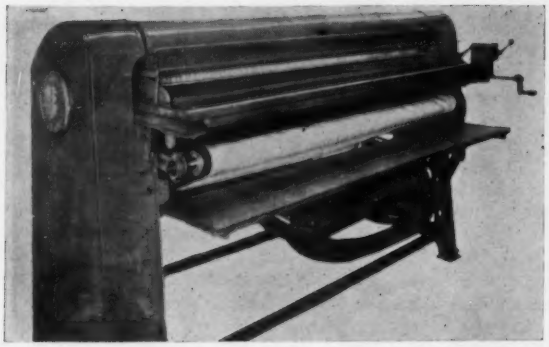
Fine Organics, Inc., Lodi, N. J.

Do you want more data? Write supplier or use card on page 187; list H-210

An all-purpose softener for wool, silk, nylon, Dacron, and the newer man-made fibers gives good resistance to yellowing from heat and is compatible with other finishing agents. Called Atcosoft RO, it may be applied by padding or exhaustion methods.

Metro-Atlantic, Inc., Centredale, R. I.

Do you want more data? Write supplier or use card on page 187; list H-211



Versatile brushing machine for knit goods

All kinds of knitted goods—from a child's mitten to a bolt of fabric 60" wide—may be processed on the new Ainslie brushing machine for brushing, napping, pile-raising, sueding, etc.

A light or heavy nap may be produced with the machine, and the exact degree of brushing is easily accomplished.

The motor-driven, single-roll brushing machine is delivered with a complete exhaust system. Ball-bearing equipped, it is easy and economical to run, requiring little maintenance.

Ainslie Knitting Machine Co., 750 Grand St., Brooklyn 11, N. Y.

Do you want more data? Write ◂ or use card on page 187; list H-114

Knits rib or interlock 50 per cent faster

Production of rib or interlock outerwear fabrics at a rate that is at least 50 per cent higher than that obtainable with similar conventional equipment and a pattern area that is at least 50 per cent greater are two advantages of the new Supreme Model IRW/2 pattern wheel

The IRW/2 on display at the recent Knitting Arts Exhibition.

The G&K Orange Line

A Superior Line of Textile Leathers

. . . I AM No. 1 IN THE ORANGE LINE

I am hairy and I am tough
I was made (tanned) that way
I check and check and check

. . . I WAS THE PIONEER

I am smooth and double and tough
I was made that way
I check and check and check

We would like to work for you!

Order us from

INDUSTRIAL & TEXTILE SUPPLY CO. • DIXIE SUPPLY CO. • THE YOUNG & VANN SUPPLY CO.
PYE-BARKER SUPPLY CO. • BARKER-JENNINGS CORP. • BATTEY MACHINERY CO. • HUGH BLACK
COLUMBUS PLUMBING, HEATING & MILL SUPPLY CO.

Southern Representatives
Carson I. Simms - Charlotte, N. C. Wiley M. Wills - Columbus, Georgia

GRATON AND KNIGHT COMPANY
The world's largest manufacturer of Leather Belting
WORCHESTER, MASS.
A Division of L. H. Shingle Co.

DRONSFIELDS' PATENT
ATLAS BRAND
EMERY FILLET

STOCKED BY
THE PRINCIPAL MILL SUPPLY HOUSES
AND CARD MAKERS

AMERICAN "Chainless"
PAN OR PALLET CONVEYOR

One continuous system — operating at floor, table or ceiling levels — up, down, around curves

One American "Chainless" Conveyor, with a single drive unit, can do work which otherwise requires a complicated system of powered belt or roller conveyors with a number of drive motors and transfer points. The continuous "Chainless" conveyor negotiates horizontal or vertical curves, and can be extended to almost any length. Pallet attachments can be used in place of pans. Eight-wheeled trolleys have exceptional stability. Write for Catalog CD-B.

CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 24, Ohio

rib interlock knitting machine which is 30 inches in diameter and available in cuts up through 16 needles per inch.

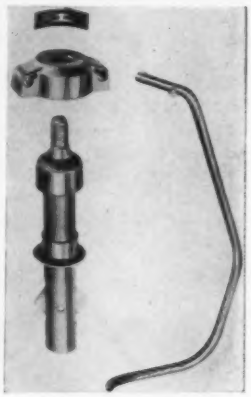
Equipped with new feeding rollers which are available as optional equipment for the accurate and positive control of rubber yarns, the machine is particularly suitable for manufacture of bathing suit fabrics.

All 36 feeds are equipped with pattern wheels that are 6 inches in diameter (larger wheels may be obtained if desired). All cylinder feeds are cammed so that cylinder needles may be set for knit to tuck or knit to welt positioning. The dial contains a dual raceway suitable for rib or interlock work. The needles of either raceway may be set in knit to tuck or knit to welt positioning.

Supreme Knitting Machine Co., Inc., 94-02 104th St., Ozone Park 16, N. Y.

Do you want more data? Write ◂ or use card on page 187; list H-115

Efficient bobbin holder has only four parts



A new version of the Spin-Master bobbin holder consists of only four parts and is less expensive than the model previously produced by its manufacturer.

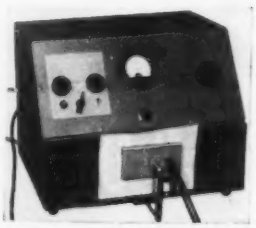
Instead of steel tubing, a tough and durable plastic material, called Karlastic, is utilized. Providing all of the necessary functional qualities of the steel tubing, the plastic is much lighter in weight and costs less. Bearings in the new unit are the same as those found in the others. Other design changes, such as a die cast dust cap, have added efficiency and lowered the number of separate parts. No washers are required.

The tension weight (fastened to the dust cap) incorporates a positive locking device and is also designed to allow the yarn to flow freely from the full package.

Eclipse Machine Div., Bendix Aviation Corp., Elmira, N. Y.

Do you want more data? Write ◂ or use card on page 187; list H-116

Accurately measures luster of textiles



A new photoelectric glossmeter measures the contrast gloss or luster of yarns, fibers, and fabrics. Accuracy is assured by precise machine construction and assembly of all optical components.

Adaptability of the instrument to both standard and new gloss tests is achieved by building elements of the incident and reflected light beams onto aluminum blocks which are mountable at either 75°, 60°, 45°, or 20°. Because of the ease with which beam and field angles can be changed, the instrument is ideally suited for special gloss tests of new products.

The optical and electrical units are in separate housings

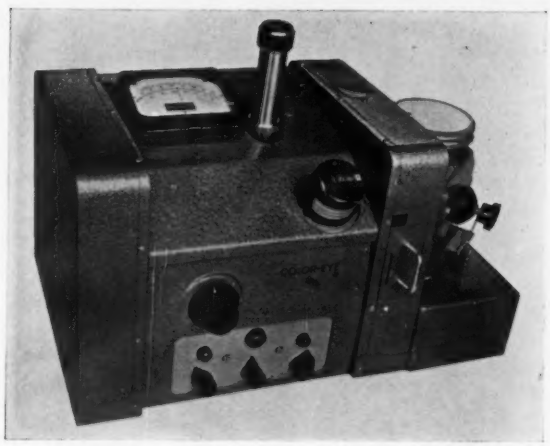
connected by cable. The instrument can thus be used: (1) with specimen on front as shown; (2) turned on its back with specimen mounted horizontally on top; or (3) with optical unit separate and mounted either flush in a table top for examination of large sheets or over a moving web for gloss recording.

For high precision, a digital dial is used in the measurement arm of a null-balanced bridge. This digital dial is operated either manually or by servo-motor.

Hunter Associates Laboratory, Inc., 5421 Brier Ridge Rd., McLean, Va.

Do you want more data? Write or use card on page 187; list H-117

Optical colorimeter is 10 times more sensitive



A new model of Color-Eye, the dual-purpose colorimeter and abridged spectrophotometer, has been announced. Designated Model D, it features the following:

1. A "flush sample viewing port" allows the instrument to be placed against any flat, vertical surface for color measurements.

2. The optical section contains a new photomultiplier with new, specially matched filters to provide more consistent match to C.I.E. standards. This optical section improves sensitivity 10 fold and increases the present high sensitivity of the instrument in measuring colors throughout the entire range from very dark to light.

Instrument Development Laboratories, Inc., 67 Mechanic St., Attleboro, Mass.

Do you want more data? Write or use card on page 187; list H-116

Pull threads mended in elliptical path

The Mend-More machine for mending pull threads in women's nylon hosiery has the following advantages:

1. A fast elliptical path to stroke the loops, instead of the conventional circular movement.

2. White, single element allows the operator to follow the line without effort.

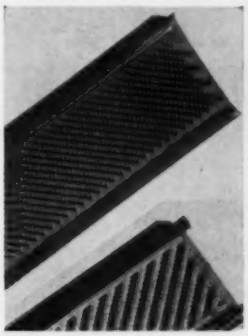
3. Slight touch will move the loops, but action is gentle and does not break threads.

4. Swivel base and flexible shaft on motor eliminate operator fatigue, contribute to higher production.

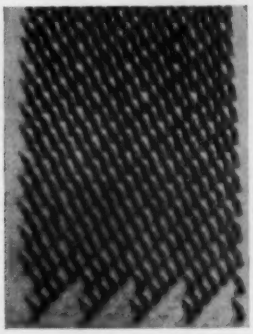
A thermostatically controlled heating element is optional, and the machine is supplied for right-handed or left-handed operators.

Stanford Marley Distributing Co., Inc., 505 Fifth Ave., New York 17, N. Y.

Do you want more data? Write or use card on page 187; list H-119



The licker-in like wire is twill-set into the foundation fabric as shown at the bottom of this photo.



Note the shape of the teeth in this close-up photo. Wire runs for years without grinding.

METALLIC FLATS CUT FLAT STRIPS FROM 50-70%

IF YOU HAVE installed metallic wire on your card cylinders, complete the job by having your flats covered with metallic wire! Metallic Flats permit reduction of flat strips from 50-70% *without* decrease in quality and eliminate grinding and stripping.

IF YOU HAVE NOT, then take advantage of metallic clothing on flats and reduce strips, stripping and grinding.

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STATIONARY-MOUNTED
CLOTH SLITTER

- Hundreds in use. Backed by 58 years of experience in the production of cloth cutting machines.
- May be mounted singly, in pairs, or spaced as needed.
- Knife is sharpened while machine is in use.

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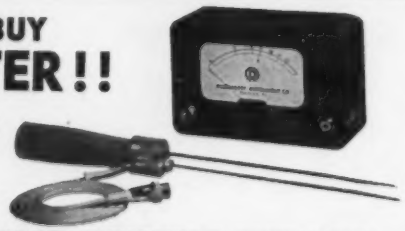
TEST MOISTURE CONTENT OF BALED COTTON EASILY WITH



DELMHORST MOISTURE DETECTOR

Now you can test 100 bales in less time than it takes to prepare one oven sample. Detector is battery operated, requires no maintenance. Complete details on request.

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From 6½" Portable Model to 50" Power Unit. Write Today For Full Information.

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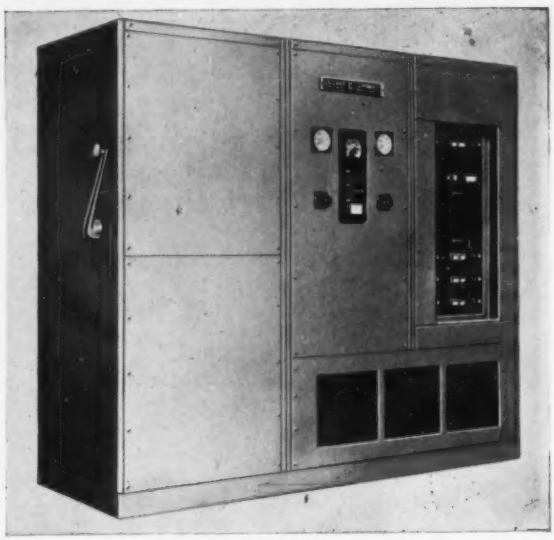
Equipment briefs

An electronic weight detector for application to Fairbanks-Morse dial scales definitely determines that the correct weight has been reached before allowing the weight to be recorded; read out equipment to be operated; controls for conveyors, hoppers, mixers, and other machinery to be operated; thereby assuring correct weighing without visual observations.

Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

Do you want more data? Write supplier or use card on page 187; list H-212

Unit substation saves space. Measuring only 79½" high, 94" long, and 36" deep, the new Power-Zone package unit substation is easy to move through doorways and



requires a minimum of installation space. Because all components can be reached from the front if necessary, the unit can be placed against a wall where space is critical. Available with capacities from 75 kva to 300 kva, with high voltages up to 4800 volts and low voltages up to 600 volts.

Square D Co., 6060 Rivard St., Detroit 11, Mich.

Do you want more data? Write supplier or use card on page 187; list H-213

Two-volume pump features single pressure adjustment. A new two-volume pump which requires only a single pressure setting for both unloading and maximum pressure prevents excessive heat generation and wasted horsepower by automatically maintaining system pressure with a small volume pump while a fixed differential between the relief valve setting and the unloading valve allows return of large volume pump capacity to the reservoir at negligible pressure. Unloading response is three times faster than previous two-adjustment models. Pressure recovery is exceptional.

Vickers, Inc., Detroit 32, Mich.

Do you want more data? Write supplier or use card on page 187; list H-214

Slasher tape unaffected by high humidity. Because of a high degree of moisture resistance, Permacel 720 Textile Tape is not affected by high humidity before or after application. Composed of a specially treated flat kraft paper and a heat and stain resistant adhesive, it is designed as a slasher and warper tape, but may also be used to hold down ends of cloth rolls, etc. Applicable to cotton and man-made fiber yarns and fabrics, the tape has a low degree of elongation and will not creep-back

or shrink, thus permitting it to be used on soft or flexible goods without wrinkling or puckering.

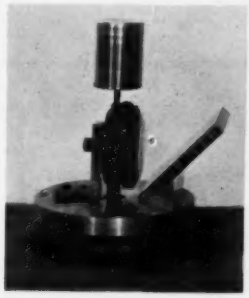
Permacel, New Brunswick, N. J.

Do you want more data? Write supplier or use card on page 187; list H-215

Durable, reusable machinery mounting pad. "Vibra-Check" anti-vibration material prevents transmission of vibration to floors and walls of buildings, as well as to other machines. When mounted on this maintenance-free material which requires no bolts or adhesives, existing or new machines can be operated at higher speeds and they will not creep. High coefficient of friction makes relocation of machinery simple. Composed of synthetic materials, the padding conforms to rough and uneven floors.

Lowell Industries, Inc., Boston 34, Mass.

Do you want more data? Write supplier or use card on page 187; list H-216



A carpet thickness gauge is now available for measuring the wear of carpets under test where normal thickness gauges are unable to measure. Unit has a 1" circular foot on a dial indicator with a weight which will exert on the specimen pressure equal to 0.75 psi. Three needles pierce the carpet until the points come in contact with the base under the carpet. In this way many different positions and at different periods of wear may be measured.

Custom Scientific Instruments, Inc., Kearny, N. J.

Do you want more data? Write supplier or use card on page 187; list H-217

5/16" nylon tubing for tufting machine creels weighs only 1.35 lb per 100 ft, so it is easy to handle during creel construction and creel weighs less. Operations are improved because translucency allows operatives to see yarn. Operator can bend tubing to meet yarn and thread it into tufting machine. Other advantages: low coefficient of friction; good abrasion resistance; easily cut, flared, and fitted; static-free operation; snag-free passage of yarns; more rigid and durable.

M & Q Plastic Products, Freehold, N. J.

Do you want more data? Write supplier or use card on page 187; list H-218

Instant drying imprints on packages, products, parts, and labels are provided by the Markem Model 45H package marking machine. Using the Thermomark Process and Touchdry Marking Compound, the machine has a thermostatically controlled printing head and ink plate which converts the marking compound from solid form to a liquid which dries on the piece the moment it is imprinted.

Markem Machine Co., Keene, N. H.

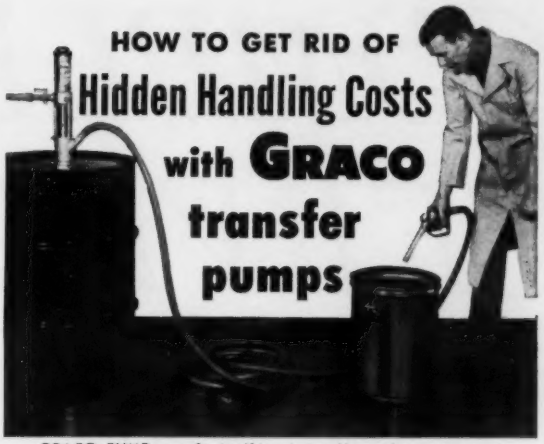
Do you want more data? Write supplier or use card on page 187; list H-219

A new automatic sock transfer machine for applying transfers to socks is simple, fast, and compact. Tape change requires only a few seconds. Measuring only 18" by 48", the machine is manufactured by Specialty Manufacturers & Sales Co.

International Textile Machine Co., 403 N. Tryon St., Charlotte, N. C.

Do you want more data? Write supplier or use card on page 187; list H-220

New drip-proof d-c motors (1 to 200 hp) provide faster response, a wider speed range, and higher overload



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Transfer fluids fast, direct-from-drum and by remote control. Just stick GRACO Fast-Flo transfer pump in drum, attach plant air hose. Pump starts when you open gasoline type valve at end of hose, stops when valve is closed. It's the fastest dispensing and transferring you've ever seen! Changes from drum to drum in a jiffy! Also available in Stainless Steel for safe transfer of "handle-with-care" liquids and semi-fluids. *Say goodby to waste and spillage . . . get the facts on Fast-Flo today!*

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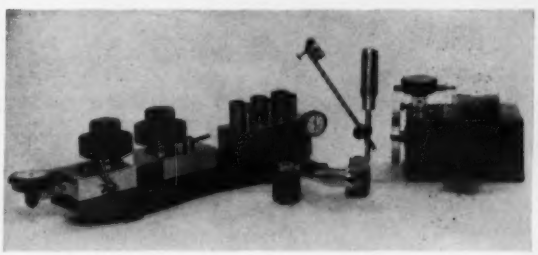
GEAR-ROLL-TRAVELER TESTING UNITS



These units are developments of West Point Manufacturing Company. Reading left to right are: *Gear Runout Tester* designed primarily for checking total composite error. *Roll Runout Indictator* Style A and B, are used for checking the runout or eccentricity of both top and bottom spinning and roving rolls. Both gear and roll runout causes variations in angular velocity of the rolls and this in turn causes variations in stock. *Traveler Hardness Tester* was designed to measure the temper or hardness of the traveler by seeing how far it will stretch before breaking. In this way avoid trouble in the spinning room.

Price and additional information upon request.

CUSTOM SCIENTIFIC INSTRUMENTS, Inc.
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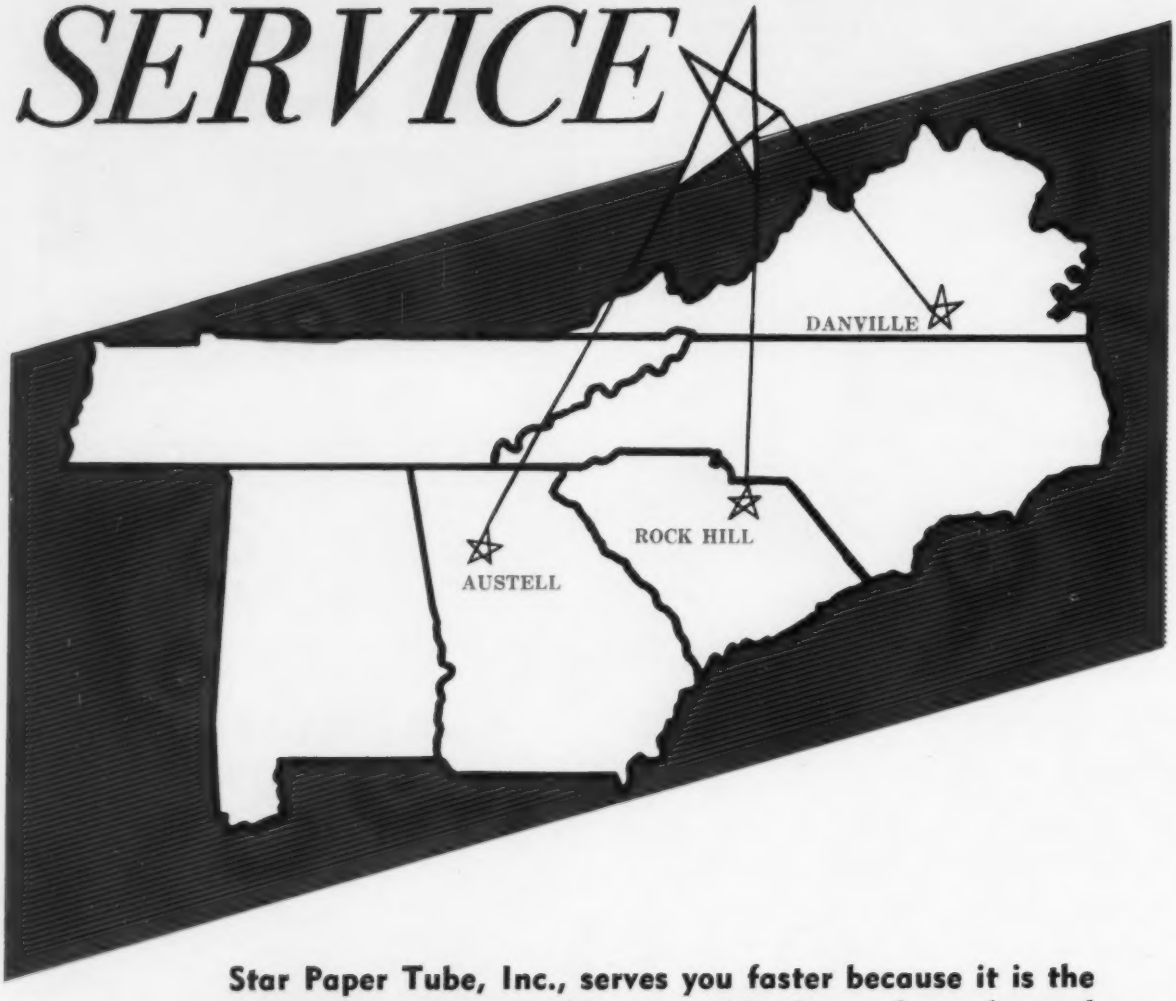
COMPLETE SERVICE



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Star PAPER TUBE, Inc.

ROCK HILL, S. C. — PHONE 2026
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CLOTH TUBES — COATED TUBES — LATEX COATED TUBES — MAILING TUBES — METAL TIP TUBES — STORAGE TUBES — WATERPROOF TUBES — CARPET CORES — PAPER MILL CORES — YARN CARRIERS — CLOTH WINDING BOARDS

capacity, yet they are lighter and more compact. Called "Flexitorq" motors, they are designed to supply constant or adjustable speed for driving textile and other equipment. Improved performance characteristics include faster acceleration, deceleration, reversing and speed changing, made possible because of a low inertia armature and improved commutating ability.

The Louis Allis Co., Milwaukee 1, Wis.

Do you want more data? Write supplier or use card on page 187; list H-221

Complete and thorough dispersing, blending, and homogenizing are quickly and economically provided by the new and versatile Model RL Shear-Flow industrial mixer. The mixer can be powered with motors ranging from 2 to 10 hp, depending on power requirement of application. Motor and mixing head changes can be made in few minutes on the spot. Parts which are immersed are made of corrosion resistant materials.

Gabb Special Products, Inc., Windsor Locks, Conn.

Do you want more data? Write supplier or use card on page 187; list H-222

Portable platform scale is slim. Furnished with four different weigh-beam modifications, the Model 1124A portable platform scale with a capacity of 1000 lb features: enclosed wheels for safety and cleanliness, offset pillar reduces over-all width and increases maneuverability, 18" x 27" platform completely free of checking, recessed counterpoise, and self-aligning hardened tool steel V-bearings.

Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

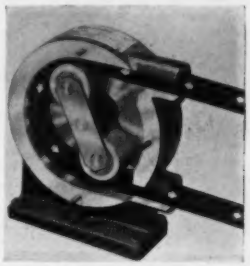
Do you want more data? Write supplier or use card on page 187; list H-223

Direct-from-drum chemical feeder. Fitting into the 2" head bung of all steel shipping drums, a new, non-electric, direct-from-drum proportioner named "Pour-Portioner" either separately or simultaneously directly meters light to viscous chemicals at drops per hour through sight glass, or batch pours through a built-in faucet. Operates by gravity feed with light liquids, or by available vacuum, pump suction, or compressed air for very viscous flow.

Sterling E. Norcross Companies, 19 Osborne St., Bloomfield, N. J.

Do you want more data? Write supplier or use card on page 187; list H-224

A pump for readily oxidizable or corrosive solutions has no moving parts that contact the material being pumped. A flexible tube passes through the pump body where it is exposed to the squeegee action of a double rotor. Result is an even flow of liquid or gas through the tube. Two models—54 and 185 gph.



Randolph Co., 1018 Rosine St., Houston 19, Tex.

Do you want more data? Write supplier or use card on page 187; list H-225

A gumming and splitting machine for tubular knit goods gums, dries, splits, opens, and rolls the fabric in one continuous operation. It requires only one operator and runs at speeds up to 18 ypm.

Jos. Pernick Co., Inc., 5419 Flushing Ave., Maspeth 78, N. Y.

Do you want more data? Write supplier or use card on page 187; list H-226

AMERICA'S SPRING STEEL DISTRIBUTOR

We have had over fifty years experience furnishing steel for both builders of TEXTILE MACHINES and makers of replacement parts for KNITTING MACHINES.

Modern Slitting and Shearing Equipment

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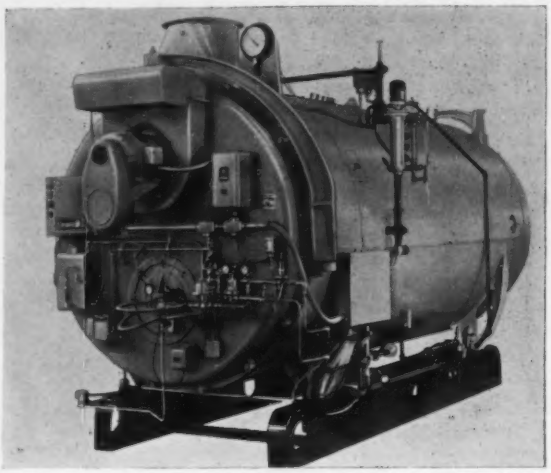
is machinery which renders a mill flexible and versatile, pays for itself in less than 3 years, is still modern in 10 years, and which requires little service and repair parts. Investigate the STAUBLI DOBBY HEADS and BENNINGER WARPERS, both so very successful in USA.

New 400-, 500-, and 600-hp packaged fire tube boilers are ideally suited for heating and processing steam or hot water for larger textile mills. Four-pass forced draft



construction assures high flue gas velocity, 80 per cent efficiency, and less tube cleaning. Other construction features: fully automatic operation with safety controls covering full firing range; single motor runs caseless fan and air compressor for low pressure air atomizing burner; rotary air damper gives positive, smooth air modulation without vibration or noise problems.

Cleaver-Brooks Co., 326 E. Keefe Ave., Milwaukee 12, Wis.

Do you want more data? Write supplier or use card on page 187; list H-227

For attaching elastic to knit garments a new under-trimmer is available for Union Special two-needle, Class 52700 machines. The improvement in appearance provided by the attachment enhances the quality of the garment without any sacrifices in production. Trimmed edge is as clean and perfect with pre-closed elastic as when using continuous elastic.

William C. Cremer & Son, 2850 Leiz's Bridge Rd., Muehlenberg Park, Reading, Pa.

Do you want more data? Write supplier or use card on page 187; list H-228

A box end marking machine, called the Timadco 16, has a built-in type changing mechanism and offers advantages of more production per operator and high quality, multi-color printing. New possibilities in box design are provided.

Timadco Inc., 72 Jericho Turnpike, Mineola, L. I., N. Y.

Do you want more data? Write supplier or use card on page 187; list H-229

An automatic trimmer for ladies hosiery machines eliminates the necessity for hand trimming the lap ends of yarn changes and increases the quantity of first quality work produced. May be applied to new or existing machines.

Gordon Industries, Inc., 1325 Ivy Ave., Winston-Salem, N. C.

Do you want more data? Write supplier or use card on page 187; list H-230

Useful for duplicating fabrics, etc., is the Model 4016 Projectina, a combination projector, comparator, and microscope which is equipped with a double projector. Two specimens may be compared side by side on the same screen and under identical lighting conditions.

Hudson Automatic Machine & Tool Co., 137-139 38th St., Union City, N. J.

Do you want more data? Write supplier or use card on page 187; list H-231

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FREE BOOKLETS

8-1 CARPET SEWING MACHINE. Circular illustrates and describes both a heavy duty carpet railway sewing machine and a carpet portable sewing machine. Birch Brothers, Inc. 32 Kent St., Somerville 43, Mass.

8-2 FIRE EXTINGUISHERS. Dry chemical fire extinguishers are described and illustrated in brochure. Includes also accessory equipment. Walter Kidde & Company, Inc., Main St., Belleville, N. J.

8-3 SPINNING RINGS. Brochure describes case histories of mills who have installed Lubri-Case rings. Describes manufacturing techniques and advantages of rings. Kluttz Rings, Inc., Gastonia, N. C.

8-4 FAR-INFRARED. Catalog illustrates and describes complete line of far-infrared heaters and controls for use in drying of textiles. Edwin L. Wiegand Company, 7500 Thomas Blvd., Pittsburgh 8, Pa.

8-5 CONTINUOUS BLEACH RANGES. Bulletin describes continuous bleach ranges for open width piece goods and for tubular knit goods. Includes diagrams and photographs. Proctor & Schwartz, Inc., 7th Street & Tabor Rd., Philadelphia 20, Pa.

8-6 DYE CYCLE CONTROLLER. Bulletin describes Ful-Flex dye cycle controller, including operational features, physical descriptions and application data. Taylor Instruments Companies, 95 Ames St., Rochester 1, New York.

8-7 ALKYL AND ALKYLENE AMINES. Booklet contains comprehensive data for 19 amines, including physical properties, tables and charts, end-use possibilities, shipping data, etc., Union Carbide Chemical Company, 30 East 42nd Street, New York 17, New York.

8-8 LABORATORY CURING AND DRYING. Descriptive bulletin covers two recently developed laboratory size units: continuous resin curing oven and patch drying oven. Andrews & Goodrich, Div. Midland-Ross Corp., 336 Adams St., Boston 22, Mass.

8-9 TOOL SERVICE. Brochure describes the complete facilities and experience of machine shops and sheet metal and fabricating shops. Tool Service Engineering Company, 209 W. Crowell St., Monroe, N. C.

8-10 GIN BLENDED COTTON. Brochure describes the blending of cotton and its advantage in increasing the utility of cotton to the mills. Otto Goedecke, Inc., Hallettsville, Texas.

8-11 DURABLE PLEATS. Bulletin describes the Si-Ro-Set process which provides a method of heat setting creases or pleats in woolen goods. Sandoz, Inc. 61 Van Dam St., New York 13, New York.

8-12 OVERHEAD HANDLING. Booklet covers types of carriers, cranes, tractors, track switches, grabs, and electrification for overhead materials handling. Bulletin No. 2008-0. Cleveland Tramrail Division, Cleveland Crane Engineering Co., 1036 E. 289th St. Wickliffe, Ohio.

8-13 BOBBIN HOLDER. Bulletin describes spin master bobbin holder showing exploded view and giving advantages. Eclipse Machine Div. Bendix Aviation Corporation, Elmira, N. Y.

8-14 MONORAIL CONVEYORS. Catalog describes two types of conveyors the American "Cable-Way" conveyor and the American "Chainless" conveyor. Conveyor Division, The American MonoRail Company, Fourth and Franklin Streets, Tipp City, Ohio.

8-15 WATER CONTROL SYSTEM. Brochure gives complete diagramatic description of Morton Levetrol water control system for wet salt storage. Morton Salt Company, Industrial Division, 110 N. Wacker Dr. Chicago 6, Illinois.

8-16 SLASHING PRODUCER TWIST YARNS. Technical bulletin describes new method of slashing producer twist nylon which requires only minor modification of existing machinery. Chemstrand Corporation, Technical Sales Service Department, Decatur, Alabama.

8-17 TENN-ACID 855. Two new booklets containing technical information on the use of this modified alkyl aryl sulfonic acid for textile and allied industries. Tennessee Corporation Marketing Research and Development Department, 1330 West Peachtree, Suite 500, Atlanta 9, Georgia.

8-18 CHAIN DRIVES FOR PICKERS. Brochure describes new main driving shaft chain drive and fluted calendar roll chain drive for Saco-Lowell Picker. Southern Gear Works, Inc., P. O. Box 1031, Gastonia, N. C.

8-19 D C MAGNETIC BRAKES. Booklet contains selection charts for matching brakes to specific motors and explains in detail the construction features. The Electric Controller & Mfg. Co. Division of Square D Company, 4500 Lee Road, Cleveland 28, Ohio.

8-20 MICRO-FOG LUBRICATION. Brochure contains reprints of articles on Micro-Fog which have appeared in seven leading trade journals. C. A. Norgren Company, Englewood, Colorado.

BOOKLETS

raw stock to roving

T-101 Lummus Pepper-Shaker Opener. Gives complete details and photographs. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-102 Static Elimination. How to eliminate static safely and inexpensively. Simco Co., 920 Walnut St., Lansdale, Pa.

T-103 Card Grinding Information. Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

T-104 Card Clothing. Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

T-105 Versa-Matic Drawing Frame. Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

T-106 Sargent Opener. Describes opener with rotary evener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-107 Feathertouch Drafting. How to get "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

T-108 Automatic Weighing Feeders. Tandem Weighing Feeder produces webs, mats and felts of continuing accuracy. James Hunter, Inc., 745 Loundes Hill Rd., Greenville, S. C.

T-109 Flexidyne Individual Card Drive. Describes operating principles, includes prices. Dodge Mfg. Corp., Mishawaka, Indiana.

T-110 Bobbins. Catalog describes metal, wood and plastic bobbins. Illustrations show actual use. Lestershire Spool Div., National Vulcanized Fibre Co., Wilmington, Del.

T-111 Magnetic Ideas. Booklet shows uses of permanent magnetic separation equipment in opening room as well as throughout mill. Removes tramp iron, prevents fires. Erier Mfg. Co., Erie, Pa.

T-112 Advantages of Aldrich Pickers. Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-118 New Condenser Tape. Describes Supr-O-Tape, an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-119 Fiber Meter. Automatic weighing and blending assures quality, holds variation to 1%. James Hunter, Inc., Greenville, S. C.

T-120 Pin Drafters. Textile job report No. 21 tells how Warner & Swasey Pin Drafters help modify jute systems for carpet yarns. Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

T-121 Universal Card Coiler. Literature describes both head and base swivel for adjustment. Includes data on 90-day free trial. McDonough Power Equipment, Inc., McDonough, Ga.

T-122 Recondition Opening & Cleaning. Bulletin gives whys and wherefores of reconditioning your opening and cleaning lines. Special attention given to each machine with suggestions as to parts replacement. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-123 Coiler Conversions. Full facts on low initial cost conversion to larger coiler cans. Lists advantages, has complete description. Southern States Equipment Corp., Hampton, Ga.

T-124 Card Drive. Bulletin 301-a describes simple, safe, efficient individual card drive. Southern States Equipment Corp., Hampton, Ga.

T-127 Pneumastop for Fly Frames. Brochure explains, in terms of dollars and cents, the benefits of having Pneumastop-equipped roving frames in the mill. Illustrated to show its operation and several different types of installations. Pneumafil Corp., Charlotte 8, N. C.

T-128 Quick-Set Roving Frame. Integral machine for processing of worsted, synthetic or blended yarns. Whitin Machine Works, Whitinsville, Mass.

T-132 Proctor Super Picker. Data sheet gives details of the Proctor Super Picker for use on slabs of baled cotton, or wool and synthetic blends in layers up to 12" thick. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-133 Anti-Static Agent. Data sheet lists basic characteristics of liquid anti-static agent which eliminates processing difficulties with fibers due to static electricity. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

yarn and warp making

T-201 Products For Spinning and Weaving. Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

T-202 New Bobbin Manual. Complete bobbin guide. Lestershire Spool Division, National Vulcanized Fibre Co., Wilmington 99, Delaware.

T-203 Spindle Oil. "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

T-205 High Speed Automatic Quiller. Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N C.

T-206 Whirlwind Twister Winder. Booklet is job report on how "Whirlwind" Twister Winder reduces cost, increases production at New Bedford Cordage Company. Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

T-208 Packaged Spinning Modernization. Details on Collecto-Vac, Open-Aire Creels, Cross-Jet Cleaner, Air Conditioning. Bahnson Company, Winston-Salem, N. C.

T-209 Sectional Warper. Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

T-210 Conical Rings and Flyers. Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

T-211 Precise Winding Machine. For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

T-212 Automatic Cleaning Equipment. Working details and advantages of the Tri-Rail Cleaner. American MonoRail Co., 1111 East 200th St., Cleveland 17, Ohio.

T-216 Spinning Frame Conversions. Big-package, new-frame results at half the cost. Meadows Mfg. Co., Station A, Atlanta, Ga.

T-217 Collecto-Vac. New development collects lint, fly and broken ends. The Bahnson Company, Winston-Salem, N. C.

T-219 Spinning and Twister Rings. Complete details, pictures, price list. Whitinsville Spinning Ring Co., Whitinsville, Mass.

T-222 Suction Cleaning System. Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 8, N. C.

T-223 Facts About Your Flyers and Spindles. Advantages of smooth flyer and spindle operation. Ideal Machine Shops, Bessemer City, N. C.

T-224 Traveling Cleaners. Describes improved frame and room cleaners. Parks-Cramer Co., Fitchburg, Mass.

T-225 Lapless Endless Spinner. Full information available. Ton-Tex Corporation, 31 Columbus Ave., Englewood, N. J.

T-226 Worsted Spinning. Describes five stages from top to yarn. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-227 Spindle Oiling Machine. Features and advantages noted. Wicaco Machine Corp., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

T-228 Handy Spinning Reference. Shows traveler speeds, sizes of ring flanges. Victor Ring Traveler Co., Providence, R. I. and Gastonia, N. C.

T-229 Unirail Uptwister. Higher yarn quality and better packages at faster speeds. Universal Winding Co., P. O. Box 1605, Providence, R. I.

T-230 Precision Textile Winding. Tensions and density control for winding rubber cones. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-231 Cone Winder. Describes Model 102 winder, including applications. Foster Machine Co., Westfield, Mass.

(Continued on next page)

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BOOKLETS

T-232 Short Cut To Staple Fiber Spinning. Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

T-233 Weaver's Knotter. Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

T-234 Textile Roll Coverings. Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

T-236 Tape For Driving Spindles. Describes banding for spindle drives on twisting, roving and spinning. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-239 Large Package Twister. Information on new anti-friction Jumbo Twister which carries a 14" bobbin with a 12" build. Meadows Mfg. Co., P. O. Box 4354, Atlanta, Ga.

T-241 Pacemaker Twisters. Folder gives details on high production, outlines notable features. Whitin Machine Works, Whitinsville, Mass.

T-242 Ring Spinning Frame. Folder presents description, illustrations and specifications of up-to-date Simplex ring spinning frames. Davis & Furber Machine Co., North Andover, Mass.

T-243 Anti-Friction Twister Bearings. Find out how bearings helped make The Meadows Twister almost friction-free. Fafnir Bearing Company, New Britain, Conn.

T-246 Better Beams. Information on three ways to make better beams. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-249 Vari-Speed Motor Pulley. Describes variable speed control through use of simplified three-major-part disc-assemblies with only one lubrication point. Reeves Pulley Co., Reliance Electric & Engineering Co., Columbus, Ind.

T-250 Spinning Modernization. Booklet shows how lower costs and improved quality are obtained by spinning modernization. Roberts Company, Sanford, N. C.

T-252 Frankl Textile Machinery. Details on foreign worsted machinery, narrow fabric looms, and finishing machinery. Ernest L. Frankl Assoc., 515 Madison Ave., New York 22, N. Y.

T-255 New Bobbin Holder. Details on streamlined, positive latching bobbin holder. Whitehead Die Casting Co., 1140 Zonolite Rd., Atlanta, Ga.

T-258 Dependable Beams. Free bulletins available on complete line of light metal, continuous welded construction beams. Milton Machine Works, Inc., Milton, Pa.

slashing—weaving—tufting

T-301 Counting And Measuring Devices. Wide range of counting devices for all types of textile machinery. Veeder-Root, Inc., Hartford, Conn.

T-302 Loom Supplies. Describes complete line. E. H. Jacobs Northern Division, The Bullard Clark Co., Danielson, Conn.

T-304 Loom Production Charts. Celluloid card shows yards per loom per week. Ralph E. Loper Co., Greenville, S. C.

T-306 The Story Of Starches. History and information on manufacture and use of starches. National Starch & Chemical Corp., 750 Third Ave., New York 17, N. Y.

T-307 Loading System. Pneumatic loading system for Saco-Lowell slasher. The Foxboro Company, Foxboro, Mass.

T-308 Steel Warp Beams. Beams for both broadloom and narrow fabrics. Milton Machine Works, Inc., Milton, Pa.

T-309 Penford Gums In Textiles. Describes their excellent properties for warp sizing spun yarns. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-311 Rotary Unions. Cut costs, get better sealing on can dryers. Perfecting Service Company, 332 Atando Ave., Charlotte, N. C.

T-312 Air Slasher Dryer. Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-313 Butt-Tacking Sewing Machine. Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

T-314 Loom Reed Booklet. Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

T-315 Cocker Equipment. Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

T-318 Formulas For Slashing Arnel. Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

T-319 Eclipse Starches For Textiles. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-321 Cocker Slashers. Complete specifications and advantages, including allied equipment. Cocker Machine & Foundry Co., Gastonia, N. C.

T-322 Mounts For Looms. Vinyl mount eliminates need for bolts or paste. Clark, Cutler, McDermott Co., 106 W. Central St., Franklin, Mass.

T-323 Unifil Loom Winder. Describes new concept of filling preparation which needs no quilling area. Universal Winding Co., P. O. Box 1605, Providence, R. I.

T-324 Aligning Lays. Setting instructions for step-by-step aligning. Draper Corporation, Hopedale, Mass.

T-325 Traveling Loom Cleaner. Advantages of the new Oscillaire loom cleaner. Parks-Cramer Co., Fitchburg, Mass.

T-326 Draper Repair Parts Catalog. Contains illustrations covering all mechanisms and construction with complete listings. Draper Corporation, Hopedale, Mass.

T-327 Baling Presses. Describes complete line of motor-driven and hydraulic baling presses. Logemann Brothers Co., 3150 West Burleigh St., Milwaukee, Wis.

T-328 Textile Machinery Parts Catalog. Describes complete line of Dayco and Thorobred textile parts. Dayton Rubber Co., Dayton, Ohio.

T-329 Counting Devices. Describes complete line of counters for every application. Trumeter Company, 38 W. 32nd St., New York 1, New York.

T-331 Static Bars. Humorously illustrates how static can be overcome. The Simco Co., 920 Walnut St., Lansdale, Pa.

T-332 Care Of Draper Shuttles. Describes how longer, troublefree service may be obtained. Draper Corporation, Hopedale, Mass.

T-334 Largest Slasher Order in History. Folder tells why Springs Cotton Mills bought 25 multi-cylinder slashers. West Point Foundry & Machine Co., West Point, Ga.

T-336 One - Piece Sizing Agent. Houghto-Size CW provides low kettle cost, results in free-running warp of high breaking strength, increasing weaving efficiency. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

T-339 Heliclone Loom Cleaner. Details on how it cuts costs, improves quality, reduces fire hazard. American Moistening Co., Cleveland, N. C.

T-342 Hydraulics in Slasher Drives. Describes characteristics of petroleum base and fire-resistant hydraulic fluids, how to select best fluid for a given job. Vickers, Inc., Box 302, Detroit 32, Michigan.

T-343 Laminated Carpet Covers. Complete information on Rol-Lap Carpet Covers with cemented seams. Bemis Bros. Bag Co., St. Louis 2, Missouri.

(Continued on next page)

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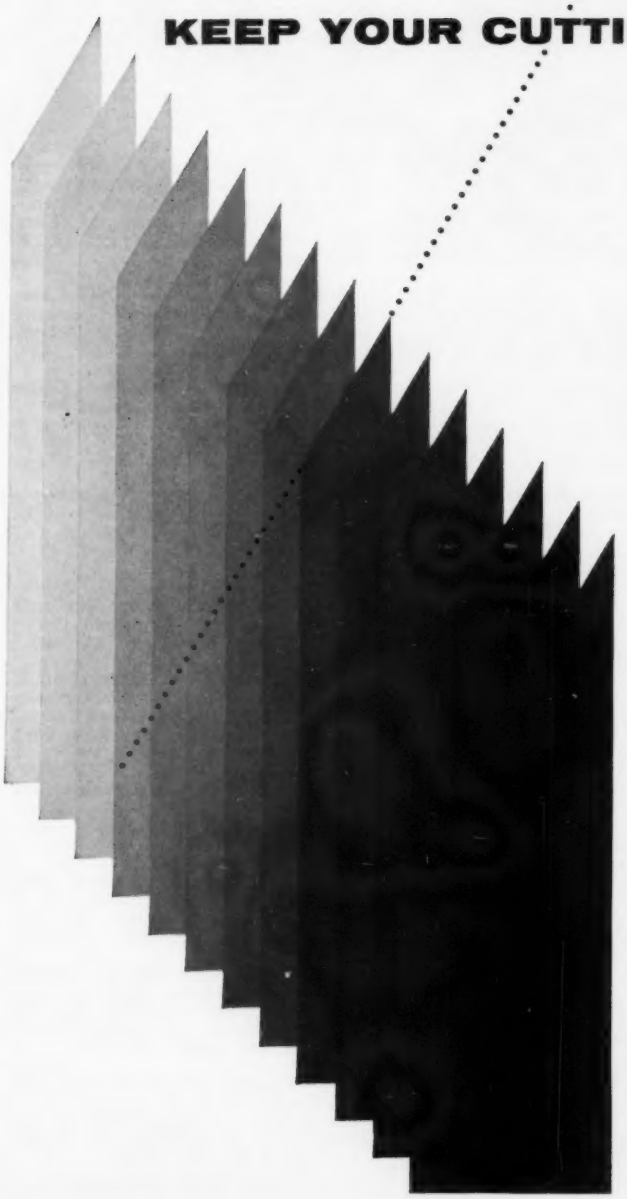

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FACT: Textured Filament Yarns and Spun Yarns are not the same.

EXAMPLE: In tufting textured filament yarns, knife edges must be kept sharp to avoid cutting streaks.

WHAT TO DO: Sharpen knives frequently. Use a clamp on your emery wheel to provide a uniform knife angle and keener cutting surfaces. This is one of the simple steps that can help you get best results with Textured Caprolan*. Our technical service, end-use development, and fiber application laboratory staffs will be glad to assist you in adapting Textured Caprolan to your product lines. Call us any time.

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BOOKLETS

T-346 Facts On Non-Wovens. Fact file on non-wovens tells of new machinery, new methods of handling fibers, new bonding agents, etc. Curlator Corporation, Textile Div., E. Rochester, N. Y.

T-347 New Drying System. Describes high capacity, custom engineered drying equipment for tufted plants. Dalton Sheet Metal Co., Inc., Dalton, Ga.

T-351 Automatic Stop Motion. Complete information available on automatic stop motion for Titan warp tying-in machine. Edda International Corp., 468 Fourth Ave., New York 16, N. Y.

T-353 Backing for Tufteds How to get your tufting necessities with one telephone call. Fulton Cotton Mills, Atlanta, Ga.

T-355 Non-Woven Fabrics. Booklet gives outline of nature and history of non-woven and the manufacturing techniques of today. Booklet 56-219A, Chemical Div., Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-358 Loom Supplies. Information on rod lubricant and applicator, sponge leather bunter, picker. Garland Mfg. Co., 54 Water St., Saco, Me.

T-360 Supplies For Tufters. Information on yarns for rug tufting or chenille or carpet backing. Piedmont Cotton Mills, East Point, Ga.

T-361 Eclipse Starches for Textiles. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-362 Size That Satisfies. Information on getting the correct size package for your mill. Also on Bingham line of slasher rolls. Stodghill & Co., 716 Ponce de Leon Place, Atlanta, Georgia.

T-363 Rubber Covered Slasher Rolls. Handy booklet tells how to get longer life and better performance from rubber covered rolls. Includes data on handling, storing and grinding. Stowe-Woodward, Inc., Dept. C., 181 Oak St., Newton Upper Falls 64, Mass

knitting

T-401 Singlehead Full - Fashioned Machine. Literature on request from the Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-403 Raschel Knitter. Describes new Raschel-type knitting machine. Kidde Textile Machinery Corp., Inc., Farrand St., Bloomfield, N. J.

T-406 Needle Oil Does Not Stain. Details on "Gulftex 39" developed for knitting mills. Gulf Oil Corp., P. O. Box 1106, Pittsburgh 30, Pa.

T-407 Knitting Machines. Information on Wildman "TFS" 30" single section F-F machines and "AL" 32" diameter 32-feed "single purpose" circular interlock machine (rib type). Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-409 Knit Goods Finishing Machinery. Data on calenders, shrinkers, curers, extractors, steamers. Tubular Textile Machinery Corp., 33-61 54th St., Woodside, N. Y.

T-410 "Reading" Type 60 F-F Knitting Machine. Information about the new "Reading" Type 60, 38-section automatic full-fashioned hosiery knitting machine. Write Textile Machine Works, Reading, Pa.

wet processing

T-500 Cloth Guides. Bulletin 22.1 provides application diagrams and illustrations. GPE Controls, Inc., 240 E Ontario St., Chicago 11, Ill.

T-501 Tubes For Package Dyeing. Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

T-502 Finishing Machinery. Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providence, R. I.

T-503 Water Analysis. Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-504 Urea Formaldehyde. Literature on urea formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1, Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-505 Acid Mordant Blue B. Details on Acid Alizarine Blue B for bright navy shades. Zinsser & Co., Inc., Hastings-on-Hudson 6, New New York.

T-506 Cationic Surface Active Agent. Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-507 Continuous Starch Cooker. Booklet shows how the use of continuous cookers for starch assures accurate control, economy, low maintenance in warp sizing and finishing. Clinton Corn Processing Company, Clinton, Iowa.

T-508 Peroxide Bleaching System. Illustrates and describes this continuous system. E. I. du Pont de Nemours & Co., Electrochemical Dept., Wilmington, Del

T-510 Textile Chemicals. Describes leading products for wet processors. Royce Chemical Co., Carlton Hill, N. J.

T-511 Brine For Textile Industry. Describes Lixate process for making brine. International Salt Co., Inc., Scranton, Pa.

T-512 Depuma. Describes odorless, viscous, non-evaporating emulsion for anti-foam. Koppers Co., Inc., Chemicals & Dyestuffs Div., 2010 Clarke Bldg., Pittsburgh 19, Pa.

T-513 Catalyst AC-6. Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Springfield 2, Mass.

T-514 Soda Ash Bulletin. Contains useful data covering this subject. Solvay Sales Division Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-515 Kylan PC (Chitin). Brochure gives physical, chemical properties of Kylan PC, a commercially available chitin. Includes also reactions and methods of packaging. Moretex Chemical Products, Inc., Spartanburg, S. C.

T-516 Aluminum Chelate PEA-1. Technical data sheet tells how aluminum Chelta PEA-1 may be used with advantage in many applications where aluminum is proplate is unsatisfactory. Hershaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-517 Chemical Catalog. Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

T-519 Hydraulic Power Units. Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

T-522 Cut Water Treatment Costs. Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

T-526 Hycar Latices. Physical properties and typical fields of application. B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, O.

T-527 Sodium Hydrosulfite. Literature and test samples are available on "T-C Hydro." Tennessee Corp., 617-629 Grant Bldg., Atlanta, Ga.

T-528 Ethanolamines. Lists application, chemical and physical properties. Nitrogen Division, Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-531 Rotary Dyeing Machine. For use in dyeing hosiery, hats, gloves, socks, etc. Turbo Machine Co., Lansdale, Pa.

T-534 Dyeing and Finishing Machinery. Complete line presented in series of catalogs. Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

T-535 Dyeing, Bleaching and Drying Equipment. Complete line for cotton, wool and synthetics described. Color pictures. Morton Machine Works, 1718 3rd Ave., Columbus, Ga.

T-536 Napthol Ratios Slide Chart. Quickly and accurately enables operators to determine Napthol Ratios. Alliance Color & Chemical Co., 33 Ave. P, Newark 5, New Jersey.

(Continued on next page)

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BOOKLETS

T-537 "PCB" Rock Salt. Tells how product saves money, eliminates bad dyeing. Morton Salt Co, Industrial Division, 120 So. LaSalle St., Chicago 3, Ill.

T-540 Penford Finishing Gums. Complete data, including physical properties. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-541 Regeneration Of Zeolite Water Softeners. Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

T-542 Dyeing Synthetic Fibers. Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-543 Industrial Brushes. Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-544 Waste Heat Recovery Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

T-545 Washers For Scouring, Bleaching, Acidifying. Describes highcapacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-546 Naphthol for Lightfast Browns. Booklet describes new, straight, nonsubstantive naphthol, Naphthol As-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-547 Softener, Lubricant, Napping Aid. Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

T-548 Handbook on Methocel. Gives technical information and use data on family of methylecellulose ethers called Methocel. Organic Chemicals Sales, The Dow Chemical Co., Midland, Mich.

T-549 Wall Charts For Handling, Testing H_2O_2. Two 16" x 21" wall charts available, one on handling and the other on testing H_2O_2. Becco Chemical Div., Food Machinery & Chemical Corp., Buffalo 7, N. Y.

T-550 Polyvinyl Acetate Emulsion. Bulletin contains a description of Celanese emulsions and cites advantages of Celanese polyvinyl acetate emulsions in textile finishing. Celanese Corp. of America, Plastics Div., 744 Broad St., Newark 2, N. J.

T-554 Instrument Catalog. Complete information on industrial instrument accessories and supplies. Includes specifications, parts numbers and prices. Catalog 500, Foxboro Co., Foxboro, Mass.

T-555 Drying Tumblers. Details on fast, efficient open-end tumblers. Huebsch Manufacturing Co., 3775 N. Holton St., Milwaukee 1, Wisconsin.

T-556 Hunter Dyeing Equipment. Describes fully with diagrams Hunter Model A Dye Becks, Hunter No/Lap Reels, Model S Dye Kettles, Open Width Dye Kettles, Sample Dye Kettles. James Hunter Machine Co., North Adams, Mass.

T-557 High Activity Catalyst. Technical bulletin describes new catalyst AC-6 which provides increased activity, excellent bath life, minimum odor formation, etc. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

T-558 Cationic Dye Leveler. Bulletin TX-34 gives new information on dye leveler for acid colors on nylon tricot and wool through use of Nopco 1425-B. Nopco Chemical Co., Textile Chemicals Div., Harrison, N. J.

T-559 Flow Control Complete information on largest selection of values to handle flow control requirements. William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-560 Profitable Curing. Complete story on profit-making loop curers and roller curers. Proctor & Schwartz, Inc., Seventh and Tabor Rd., Philadelphia 20, Pa.

T-561 Pump Pourable Pastes. Bulletin tells how Moyno pumps can pump any textile liquid that can be forced through a pipe, even if highly viscous or corrosive. Robbins & Myers, Inc., Springfield, Ohio.

T-563 Polyethylene Finishing Agent. Booklet contains information needed to adopt Emulsifiable A-C polyethylene as a finishing agent to any particular process. Semet-Solvay Petrochemical Div., Allied Chemical Corp., 5th Floor T, Rector Street, New York 6, N. Y.

T-564 Hydrogen Peroxide Bleaching. Booklet discusses advantages, operating details and savings in chemical costs of Activated Hydrogen Peroxide Bleaching Process for Cotton. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-566 Ethylex Gums. Brochure describes properties of hydroxy ethyl ether derivatives of corn starch. Applications of these noncongealing gums in warp sizing and finishing covered. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

T-570 Carpet Dryers. Details, pictures, drawings on driven roll, conveyor, and tenter types. Andrews and Goodrich Div., 336 Adams St., Boston (Dorchester), Mass.

T-571 Chainless Mercerizing Machine. Two new bulletins provide complete information on the Benninger Chainless Mercerizing Machine for piece goods. H. W. Butterworth & Sons Co., Bethayres, Pa.

T-572 Dyeing Machinery for Every Purpose Illustrated literature available on complete line of automatically controlled machinery. Gaston County Dyeing Machine Co., Stanley, N. C.

T-573 Textile Finishing Machinery. Folder available from Marshall and Williams Corp. contains photographs of each piece of finishing equipment manufactured by the firm. Request from Marshall and William Corp., 46 Baker St., Providence, R. I.

T-575 Rotary Unions and Traps. Complete details on various types of rotary unions and steam traps, including specifications, operating pressures, etc. Perfecting Service Co., 332 Atando Ave., Charlotte, N. C.

T-576 Yarn Preparation. Describes products for yarn preparation, printing, finishing. Polymer Industries, Springdale, Conn.

T-577 Stainless Dry Cans. Information on stainless steel, 75 psi, reverse dished. head dry cans. Can be furnished Teflon-coated if desired. Sims Metal Works, West Point, Ga.

T-579 Automatic Guiding Equipment. Catalog shows various types of automatic guiding equipment for accurate cloth guiding. Fife Mfg. Co., Inc., P. O. Box 9815, Oklahoma City, Okla.

fibers and yarns

T-601 Fortisan-36, New Textile Fiber. Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

T-602 Caprolan Nylon Heavy Yarns. Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

T-603 Rayon—Mile By Mile. Details on how rayon is produced mile by mile, perfect inch by inch. Industrial Rayon Corp., 500 Fifth Avenue, New York 18, N. Y.

T-604 The Chemstrand Nylon Story. Describes the birth and growth of Chemstrand Nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

T-605 Color-Fast Fibers. Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to colorfastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

T-606 "Dial-A-Fiber." Ingenious circular chart indicates properties and compatabilities of "Uvitex" for application on natural and synthetic fibers. Ciba Co., Inc., Route 208, Fair Lawn, New Jersey.

(Continued on next page)

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BOOKLETS

T-807 The Story On Lurex. Information on metallic yarns made with Mylar and how they are developed to broaden the scope of the tufted industry. Textile Fibers Dept., The Dow Chemical Co., James River Div., Williamsburg, Va.

T-808 Taslan Textured Yarns. Technical information on dyeing and finishing of new fabrics made with Taslan. E. I. du Pont de Nemours & Co., Wilmington 98, Delaware.

T-809 Processing Nylon Staple. Data sheet describes method of processing Du Pont 420 Nylon Staple in blends with cotton. Covers complete operation through sizing. Bulletin N-93, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

T-811 Candlewick Tufting Yarns. In cotton, rayon, nylon and blends . . . a "put up" for every need. Candlewick Yarn Co., Dalton, Ga.

laboratory

T-701 Testing Instruments. Descriptions of 37 instruments for testing textiles. Custom Scientific Instruments, Inc., 541 Devon St., Kearny, N. J.

T-702—Metal Detector. Spot troublesome metal before it harms equipment or fabrics. Radio Corp. of America, Dept. S-271, Building 15-1, Camden, N. J.

T-703 Shadograph Weighing Devices. Pictures and information on various types of scales. Exact Weight Scale Co., Columbus 8, Ohio.

T-704 Pilling Tester. Booklet contains technical information on random tumble pilling tester. Includes features, advantages, recommended uses and gives detailed reports on preparing various materials for testing. E. I. DuPont, De Nemours & Company, Textile Fibers Dept., Wilmington, Delaware.

T-705 Strobotac. Measures speed of rotating, reciprocating or other cyclic motions. General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass.

T-706 Yarn Count Scale. Data sheet tells how direct-reading instrument provides fast, accurate method of determining yarn number. Exact Weight Scale Co., Columbus 8, Ohio.

T-712 Automatic Moisture Control. Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics. Hunter Controls, Inc., Div., James Hunter Machine Co., North Adams, Mass.

services for management

T-801 Factoring Service. Details on advantages of factoring, including information on general banking and pension plans. Trust Company of Georgia, Atlanta, Ga.

T-802—Non-Woven Fabrics. Report includes how non-woven fabrics are made, machinery involved, sample fabrics. Textile Fibers Dept., E. I. du Pont re Nemours & Co., Inc., Wilmington 98, Del.

T-805 Profit Through Factoring. Brochure gives facts on the use of factoring as a modern plan for developing sound business growth and added profits. Walter E. Heller & Co., Dept. TI-2, 105 W. Adams St., Chicago 99, Ill.

T-807 Group Insurance. Information on how textile group insurance can insure the happiness of your employees and make for a better running mill. Provident Life and Accident Insurance Co., Group Dept., Chattanooga, Tenn.

T-808 Factoring. Complete details on services offered as mill factors. L. F. Dommerich, 271 Madison Ave., New York, N. Y.

T-809 Move Key Men Quickly. Industrial airplanes help keep your key men from being stuck on one job at a time. Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-810 The Wonalancet Way is the title of an editorial booklet published five times a year dealing with current problems. Write Wonalancet Company, 128 Burke St., Nashua, N. H.

T-812 Beechcrafts at Work. Booklet available from Southern Airways Company shows how Beechcraft executive airplanes can save executives time ond money. Write Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-818 Textile Engineering. Information on complete, integrated service covering every type of textile project. Robert & Co. Assoc., 96 Poplar St., N. W., Atlanta 3, Ga.

T-819 Organized Lubrication Pays. Planning book entitled "Management Practices that Control Costs via Organized Lubrication" shows how to effect savings in five areas of plant operation. Available from Texaco, Inc., 135 E. 42nd St., New York 17, N. Y.

T-821 Inventory Control. How a daily report of inventory condition mechanically produced on existing business machines showed a net direct payroll saving of more than $10,000 a year. Administrative Methods Dept., Werner Textile Consultants, 1430 Broadway, New York, N. Y.

plant operation

T-902 Belt Lacing Equipment. Includes prices, specifications, etc. Clipper Belt Lacer Co., Grand Rapids, Michigan.

T-903 "Motor Selector." How to select a-c motors for specific application. Bulletin B-2103. Reliance Electric & Engineering Co., 24701 Euclid Ave., Cleveland 17, Ohio.

T-904 Gearmotors, Motogears, and Fluid Drives. Catalog supplies complete information on double, triple, and quadruple reduction gearmotors and motogears. Electrofluid and fluid drives are also explained. Link-Belt Company, Dept. PR, Prudential Plaza, Chicago 1, Illinois.

T-905 Rotary Pressure Joints. Details on self-lubricating, self-adjusting, self-aligning joints. The Johnson Corp., Three Rivers, Mich.

T-907 Wrap Up Lint Problems. Automatic lint filter removes lint from air, winds it into disposable roll. Bulletin 234, American Air Filter Co., 275 Central Ave., Louisville 8, Ky.

T-908 Textile Motors. Bulletin describes complete line of textile motors. Diehl Mfg. Co., Finderne Plant, Somerville, N. J.

T-909 Compressors. WB two-stage water-cooled. Space-saving units require modest foundation up to 125 psi and 1150 cfm displacement. Bulletin WB-10. Gardner-Denver Company, Quincy, Illinois.

T-910 Modern Lubrication Methods. A report to management tells how modern lubrication methods can help save thousands of dollars in three major economic areas of textile plant management. Describes twelve operating advantages of automatic lubrication systems. Lincoln Engineering Co., 4010 Goodfellow Blvd., St Louis 20, Mo.

T-911 Leather Belting. Selection, installation, proper maintenance. Atlanta Belting Co., 508-510 Whitehall St., S. W., Atlanta, Ga.

T-912 Story of Nylon Bristle. Tells of discovery and production, with special attention to "Tynex," a form of nylon ideal for use in brushes. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-913 "One-Shot" Lubricators. Bulletin describes wide field of application for one-shot lubricators on machines requiring closely controlled but infrequent oil feed. Bijur Lubricating Corporation, Rochelle Park, N. J.

T-914 Industrial Greases. Describes multi-purpose lithium soap industrial greases. Sinclair Refining Co., 600 Fifth Ave., New York, New York.

T-917 Blowers And Exhausters. Full description, including detailed drawings. Buffalo Forge Co., 490 Broadway, Buffalo 5, N. Y.

T-918 Paint Stripping Booklet. Explains simplified method of stripping paint. Oakite Products, Inc., 22 Thames St., New York 6, New York.

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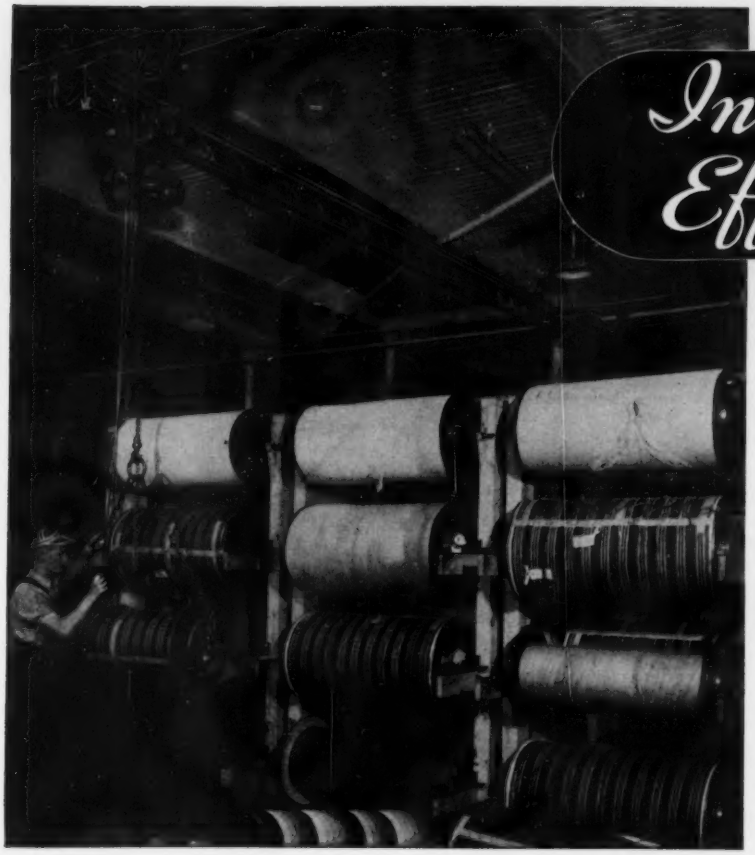

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BOOKLETS

T-921 Catalog Of Needle Bearings. Design, application for five types of needle bearings. The Torrington Co., Torrington, Conn.

T-924 Ball Bearings For Textile Machinery. Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

T-925 Lubrication Of Bearings. Helpful list of do's and don't to prolong bearing life. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

T-928 Controls For Heating, Air-Conditioning. Catalog describes and illustrates line of automatic controls for heating, ventilating and air-conditioning control systems. Barber-Colman Co., Rockford, Ill.

T-929 New Air Conditioners. Bulletin describes new line of AAF-Herman Nelson Air Conditioning Units, featuring the Roll-O-Vent automatic air filter. American Air Filter Co., Inc., Louisville 8, Ky.

T-930 Dry Fluid Drive. Booklet describes how Flexidyne offers a new approach to difficult drive problems through the use of steel shot as a "liquid." Dodge Mfg. Corp., 1000 Union St., Mishawaka, Ind.

T-931 New V-Belt Drives. Bulletin contains information on selection and operation of V-belt drives. Covers all types of V-belt drives. Dodge Mfg. Corp., Mishawaka, Ind.

T-932 Smooth Acceleration, Deceleration. Describes eddy - current equipment for smooth, stepless acceleration and deceleration. Eaton Mfg. Co., 3307 14th Ave., Kenosha, Wis.

T-933 Catechism Of Electric Machinery. Booklet contains complete technical treatise on various electrical machines. Electrical terms defined. Fairbanks, Morse & Co., Fairbanks-Morse Bldg., Chicago 5, Illinois.

T-937 V-belts. Tells how raw materials and finished belts are tested and inspected. Quality control and experimental production covered. Booklet 5-51107, Dept. 794, Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-939 Lubricant Pumps. Catalog features new line of air-motor operated lubricant pumps. Covers design and engineering features, lubricant-output-performance and selection charts. Catalog No. 65, Lincoln Engineering Co., 5702-15 Natural Bridge Ave., St. Louis 20, Missouri.

T-942 Central Station Air Conditioning. Booklet describes controlled ventilation, air circulation, air washing, humidifying, evaporative cooling which are available through central station air conditioning. Parks-Cramer Co., Fitchburg, Mass.

T-948 New Lubricated Plug Valves. Semi-steel and steel lubricated plug line. The William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-949 Casters and Wheels. Manual contains descriptive material and application data for various casters and wheels. Darnell Corp., Limited, 1200 Woodruff Avenue, Downey, Calif.

T-950 Air Conditioning Control. Air conditioning control cabinets are described, with tables, curves, and sketches, dimensions, physical data, performance, and coil ratings, etc. Buffalo Forge Company, 490 Broadway, Buffalo, N. Y.

T-951 Organized Plant Lubrication. This subject, including how to go about it, is discussed at length in the July, 1958, issue of "Lubrication," a Texaco publication. Reprints of that issue are available from Texaco, Inc., 135 E. 42nd St., New York 17, N. Y.

T-952 Speed Reducer. Folder describes "Universal Worm Gear Speed Reducer" which is built to operate in three positions and has a higher capacity with external fins for cooling. Link-Belt Company, Prulential Plaza, Chicago 1, Ill.

T-953 Enduro Stainless Steel. Brochure describes various types of Enduro Stainless Steel, including properties, fabricating, joining, and care and finishing. Republic Steel Corporation, Republic Building, Cleveland 1, Ohio.

T-954 Motor Selection. Bulletin gives concise data on selection to users of A-C motors from one through 200 hp. Pictures, ratings, dimensions, etc, included. Reliance Electric and Engineering Co. 24701 Euclid Ave., Cleveland 17, Ohio.

T-956 Penetrating Wood Finish. Describes floor seals for textiles. E. I. du Pont de Nemours & Co., Inc., Finishes Div., Wilmington, Del.

T-957 Pipe Threading Tools. Capacities and weights included along with pictures. Ridge Tool Co., Elyria, Ohio.

T-958 Stainless Steel Fabrication. Information on ventilating and drying, slasher exhaust, and materials handling in stainless. Sims Metal Works, West Point, Ga.

T-960 Waste Treatment. Booklet describes "Dowpac" application in waste treatment. Contains properties, assembly, application in oxidation towers and performance data. Dow Chemical Co., Midland, Mich.

T-962 Industrial Floor Finishes. 16-page book contains specifications and descriptions of industrial floor finishes for textile use. Includes directions for application. Minnesota Paints, Inc., 1101 Third Street, South, Minneapolis, Minn.

T-963 Humidification by Graduvac. Bulletin gives details on gravity type atomizer control system and tells how supply of water to atomizers is automatically regulated. Parks-Cramer Co., Fitchburg, Mass.

T-967 Tailor-Made Gears. Information on textile and industrial gears for every purpose from iron, steel, bronze, rawhide, Bakelite, and made to specification. Ferguson Gear Co., Gastonia, N. C.

T-969 Multifak Lubrication. How you can simplify lubrication in your mill by using Multifak, the low cost multiple purpose textile lubricant. Texaco, Inc., 135 E. 42nd St., New York 17, N. Y.

T-970 Johnson Rotary Pressure Joints. Bulletin describing the rotary pressure joint which requires no packing, no lubrication, and no adjustment. Gives installation and maintenance instructions, types, sizes, dimensions, and prices. Request from The Johnson Corp., Three Rivers, Michigan.

materials handling and shipping

T-1005 Tramrail Engineering And Application. Data on how Tramrail equipment can cut handling costs. Cleveland Tramrail Div., Cleveland Crane and Engineering Co., 1036 East 289th St., Wickliffe, Ohio.

T-1007 Materials Handling For Textiles. Shows how fibre trucks can increase efficiency, protect products. National Vulcanized Fibre Co., Wilmington 99, Del.

T-1008 Stresses on Overhead Tracks. Covers track peening, discusses stresses. Cleveland Tramrail Div., Cleveland Crane & Engineering Co., Wickliffe, Ohio.

T-1012 Improved Materials Handling. "Materials in Motion" describes use of fibre containers. National Vulcanized Fibre Co., Wilmington, Del.

T-1013 Trucks Doff, Store, Become Spooler Tray. Brochure tells how mobile boxes are being used as doff boxes, storage boxes, and spooler trays on Barber-Colman spooler. Fisher Mfg. Co., Hartwell, Ga.

T-1014 Carpet Cores, Storage Tubes. Literature on simplified storage and better cores for rugs. Sonoco Products Co., Hartsville, S. C.

T-1015 Overhead Conveyor. Catalog features "Cable-Way" Overhead Conveyor which has low-cost, ease of installation, quiet operation and long life. Conveyor Division, The American MonoRail Co., Fourth and Franklin Sts., Tipp City, Ohio.

T-1016 Guide To Better Closures. For use as a guide for the evaluation of methods currently in use to effect economy and better production in the closure of fiber board boxes. Acme Steel Products Div., Acme Steel Co., 135th and Perry Ave., Chicago, Ill.

T-1020 Automatic Wrapping. Tells how automatic packaging increases the sales appeal of textile products. Saves labor and materials and adds tamper - proof product protection. Write Hayssen Mfg. Co., Sheboygan, Wis.

PERSONAL NOTES

Abbeville (S. C.) Mills Corp. has announced the following promotions: **Sam J. Guilford** to assistant production planning manager, **Bill Cameron** to assistant planning supervisor for the grey mill, and **Willie Copeland, Jr.,** to planning supervisor of the finishing plant. **Kemp McKenzie** has taken over the post of filling scheduler in the filling preparation department. * * * **Jack Coursey** has moved to a position with Excelsior mills of the Worsted division, Union, S. C. **C. E. (Bill) Anderson** has been appointed merchandise manager of Excelsior. Succeeding him as plant manager is **Edwin D. Shaw, Jr.** Elevated to production planning manager is **Gene Hance.** Mr. Hance succeeds **W. F. Williams** who is moving to the Rutherfordton, N. C., plant.

The American Association of Textile Chemists and Colorists has named **Emery I. Valko** recipient for the 1959 Olney Medal, awarded annually for outstanding achievement in the field of textile chemistry. Dr. Valko is a professor, Division of Chemistry, at Lowell (Mass.) Technological Institute.

Wayne Hays has joined the chemical engineering staff of The Kendall Co., Kendall Mills Division, Walpole, Mass. His duties will be concerned exclusively with the development of nonwoven fabrics and related processes.

Pepperell Manufacturing Co. has named **Homer M. Carter** executive vice-president. **Robert B. Horsley** has succeeded Mr. Carter as general manager of the Alabama division.

Mr. Carter
Pepperell

Mr. Manning
Burlington

Burlington Industries, Inc., has transferred **John C. Tate, Jr.,** to Greenville, S. C., where he will serve as executive assistant to the president of B. I. Cotton Mills division. * * * **William S. Manning** has been appointed a vice-president of Burling-

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PERSONAL NOTES

(from page 201)

ton House Fabrics Co. division.

Arthur K. Winget has retired from his position as chairman of the board of directors of American & Efird Mills, Inc., Albemarle, N. C. He has been named honorary chairman of the firm.

R. G. Mitchell of International Latex Corp. has been named chairman of the American Society for Quality Control. Other officers named were: **R. E. Heiland,** Kurt Salmon Associates, chairman elect; **W. S. McMann,** Dan River Mills, Inc., secretary; and **C. D. Ferris,** Mohawk Carpet Mills, Inc., treasurer.

Harold V. King has retired as vice-president and general manager of Bates Manufacturing Co., Lewiston, Me. Mr. King had been with the firm for 35 years.

Berkshire Hathaway, Inc., has appointed **Arthur T. Branigan** general superintendent of manufacturing. He is in charge of all the firm's plants in Massachusetts and Rhode Island.

STAFF PHOTO

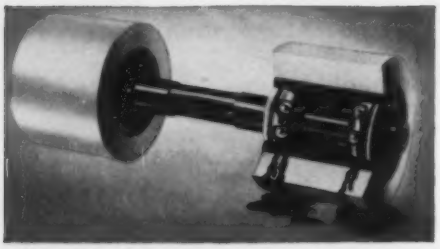
J. PAUL KITCHENS (center), having been elected to receive the Delta Kappa Phi 1959 award for outstanding scholarship and leadership at the A. French Textile School, Georgia Institute of Technology, looks on as PROF. GERALD B. FLETCHER attaches his name plate to the DKP plaque. Mr. Kitchens, a native of Dalton, Ga., and graduate in the 1959 class, is now with Fieldcrest Mills. DR. J. L. TAYLOR, head of the textile school, sees the job well done.

Fred G. Barnet, Jr., has been appointed president of American Associated Companies after having resigned as vice-president of marketing for Fulton Cotton Mills.

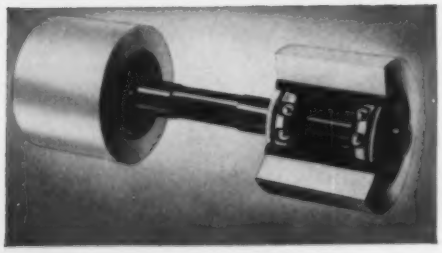
Lyndall F. Carter has been elected president of The William Carter Co., succeeding his recently deceased father, Horace A. Carter. At a special meeting of the board of directors **William L. Carter,** vice-president and advertising manager, was elected secretary; **David H. Finnigan,** vice-president, was named treasurer; and **Manson H. Carter,** merchandise manager of the Toddlers' Div., was chosen clerk. *(Continued page 204)*

Lyndall Carter

NON-FLUID OIL
TRADE MARK REGISTERED



Ordinary oil drips out, stains yarn



NON-FLUID OIL stays where applied

The adhesive nature of NON-FLUID OIL keeps it in the necks of rolls, top rolls, cylinder bearings and saddles of top rolls until it is entirely used up. It reduces wear caused by friction. Power is conserved. Bearings last longer—*they run practically without vibration.* NON-FLUID OIL, because it stays where applied, does not spread to the face of the rolls or drip from roll necks as ordinary oils do. Top roll damage and oil-stained yarn are completely eliminated. And the savings in lubricant, power and bearing repair which result, often pay the entire cost of the NON-FLUID OIL.

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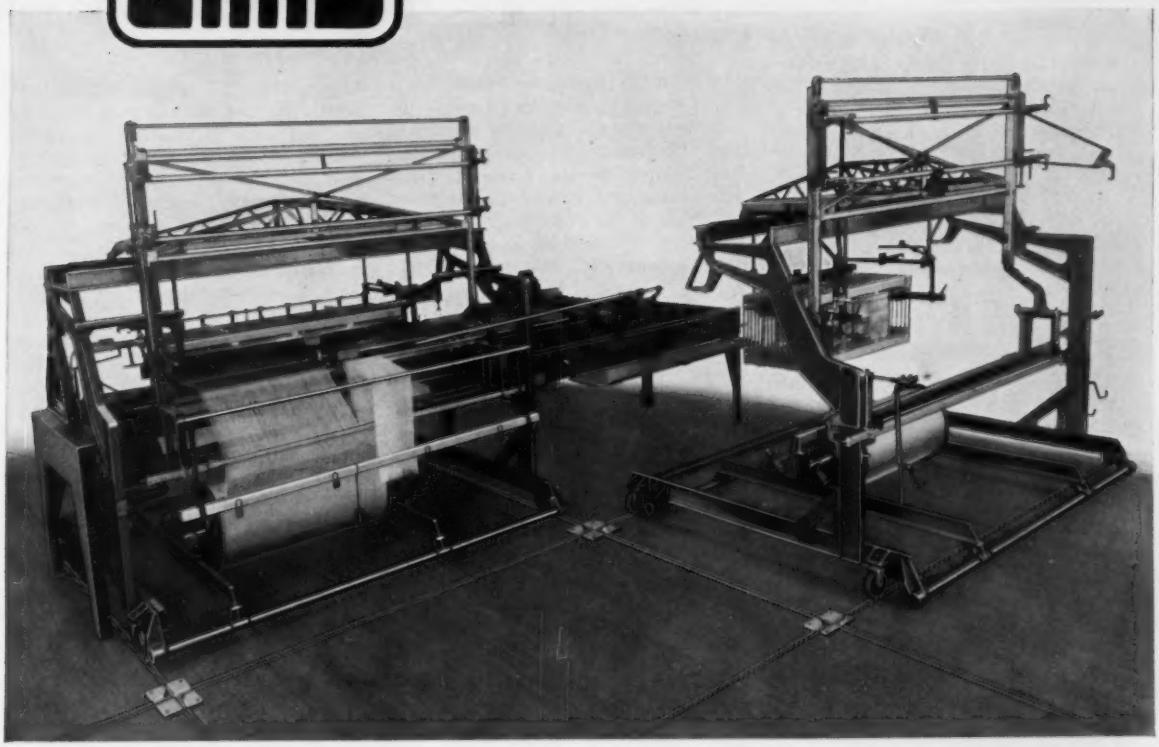

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PERSONAL NOTES

(from page 202)

Riegel Textile Corp. has named **Richard W. Malone** director of methods and standards and industrial engineering for its Trion, Ware Shoals, and Johnston, S. C., plants.

George D. Malone has joined Deering Milliken Service Corp. as an industrial engineer with headquarters in Spartanburg, S. C. He was formerly assistant superintendent of Exposition Cotton Mills Co., Atlanta, Ga.

H. T. Sullivan has accepted the position of personnel director for Opp and Micolas Mills, succeeding **W. C. Estes,** who resigned to become director of personnel for Morrison's Cafeterias, Inc., with headquarters in Mobile, Ala.

Allen H. Watkins has been named president of Triangle Hosiery Co., High Point, N. C., replacing **Nathan M. Ayers** who continues on the board of directors. Mr. Watkins is also president of the Kittyhawk Corp. of Greensboro.

Mr. Tripp Mr. Fiori

Miss Rollins Mr. Brown

The U. S. Department of Agriculture Superior Service Award for achievements in research on cotton has been received by **Mary L. Rollins, John J. Brown, Louis A. Fiori,** and **Verne W. Tripp.** All four are members of the research staff of the Southern Utilization Research and Development Div., with headquarters at the Southern Regional Research Laboratory in New Orleans. Miss Rollins and Mr. Tripp were honored for their accomplishments in the study of the structure and chemistry of the cotton fiber leading to improved textile processing through the development of significant basic knowledge of the microscopic and submicroscopic structure and behavior of cotton. Mr. Brown and Mr. Fiori were cited for developments in textile engineering research resulting in increased utilization of cotton through the recognition and application of fiber fineness in improving product quality, processing efficiency, and merchandising practices.

J. Wilbert Wood, vice-president of J. P. Stevens & Co., Inc., and general manager of the Greenville and Rock Hill Groups of the Cotton Division, will retire on September 1, George P. McClenaghan, vice-president in charge of the Cotton Division, announced recently. In anticipation of Mr. Wood's retirement, Mr. McClenaghan made the following managerial changes in his division: **Dan M. Leister** of the Roanoke Rapids Group was appointed to succeed Mr. Wood as general manager of the Greenville Group. **R. Carter Henry** was made assistant general manager. Named to succeed Mr. Wood as general manager of the Rock Hill Group was **W. Kirk Stringfellow. Henry W. Suber** was made assistant general manager. * * * **James Harrell,** vice-president of the company, is now assistant officer in charge of the entire Cotton Division. **William H. Burton, Jr.,** is now general manager of the Utica Mohawk Group. **E. V. Webb** is manager of finishing for the Cotton Division with headquarters at Cheraw, N. C. * * * In the Roanoke Rapids Group the following changes have been announced: **Frank T. Roberts** has been named assistant general manager of the group. **E. H. Fuller,** superintendent of Roanoke Plant No. 2, has been appointed manager of the Rosemary Plant to fill the vacancy created by the resignation of R. L. Rogers. **C. O. Graham** has been appointed to succeed Mr. Fuller as superintendent of Roanoke Plant No. 2. **James O. Brown** has been named assistant superintendent of the Roanoke No. 2 mill. * * * **Gilbert H. Robinson** has resigned as president and director of Forstmann, Inc., a subsidiary of J. P. Stevens & Co., Inc. * * * **Julian M. Rivers** has been named assistant comptroller of the firm, with headquarters in Charlotte, N. C. *(Continued on page 206)*

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This PSC team automatically delivers maximum heat at minimum cost to your slashers, dry cans, calenders, embossers, and printing and coating machines.
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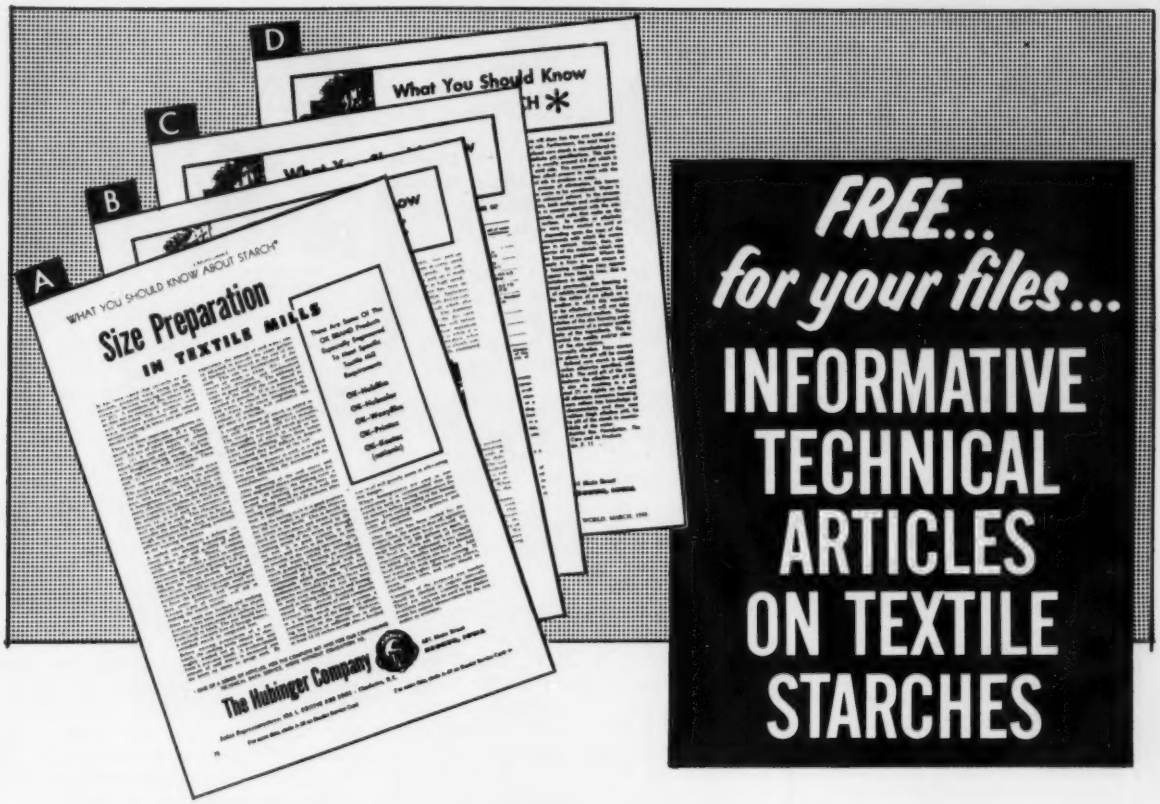

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SOFTENERS
Cations (Polysoftener 200, 250, 800)
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Polylube EE (Polyethylene Emulsion, Non-ionic)

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Polyweighter P
Polyweighter 6U

PIGMENT COLORS*
Imprint: Resinated Concentrates for Water System Printing
Impad: Concentrates for Pad Dyeing
Imperse: Non-ionic and Anionic Aqueous Dispersions

PIGMENT BINDERS
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Low Crock Binder (1559, 1718)

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PERSONAL NOTES

(from page 204)

Callaway Mills Co., LaGrange, Ga., has promoted **Lewis Price, Jr.,** to plant engineer at Unity. * * * **Charles W. Funderburk** has assumed his new duties as assistant production supervisor at the Elm City plant.

James Burgess has accepted the position of treasurer and general manager of Carolina Fine Fabrics, Inc., Hickory, N. C. He replaces **R. H. McComb,** who recently resigned.

Marcus W. Carter, formerly of Hart Cotton Mills, Tarboro, N. C., is now assistant superintendent of Exposition Cotton Mills Co., Atlanta, Ga.

William E. Thraikill has been named plant manager of Judson Mills, Greenville, S. C.

Cone Mills Corp. has made **William C. Smith** overseer of the cloth room at the Pineville, N. C., plant. **James M. Bridges** succeeds to Mr. Smith's former position of assistant overseer. * * * **D. J. Welborn** has retired from his position as supervisor in the dyehouse at Proximity Print Works, Greensboro, N. C., after being with the firm over 30 years. * * * **Clarence W. Greene** has been promoted to supervisor of finishing ranges in the finishing department at Union Bleachery, Greenville, S. C.

Mr. Greene
Union Bleachery

Mr. Webb
P. H. Hanes

The P. H. Hanes Knitting Co., Winston-Salem, N. C., has appointed **Edward W. Webb, Jr.,** manager of the cotton department.

During the recent annual convention in Sea Island, Ga., South Carolina Textile Manufacturers Association named **Fred B. Dent** of Mayfair Mills to continue as president of the association, and **George P. McClenaghan** of J. P. Stevens & Co., Inc., as vice-president.

Southern Textile Association has elected **Joe N. Jenkins,** superintendent of the Lower Plant of The Kendall Co., president, and **Robert M. McCrary,** president and treasurer of Hart Cotton Mills, first vice-president of the association.

Julian T. Baker has been elected president and chairman of the board for Virginia Mills, Inc., Swepsonville, N. C.

OBITUARIES

Joel Richard Abney, 63, retired textile executive of Abney Mills and Julia Cade Mills, Greenwood, S. C.

George D. Baker, Universal Fiber Treatments, Inc., Macon, Ga.

Harvey Talmadge Cross, 62, retired president of Hampton-Wrenn, Inc., Martinsville, Va.

Gerson G. Greenberg, 52, founder and president of Wayne Weavers, Inc., and Samson Worsted Mills, Philadelphia, Pa.

William Halpin, 60, overseer of weaving, Somersville, (Conn.) Mfg. Co.

Samuel Herlich, 66, partner in S & M Knitting Mills, Philadelphia, Pa.

Roland Hesmondhalgh, Ga.-Ala. representative of Sykes, Inc., Atlanta, Ga.

Rudolph Hirschwald, 67, president and former board chairman of Sanson Hosiery Mills, Inc., Philadelphia, Pa.

Jacob Craig Johnson, 62, president of Johnson Hosiery Mill, Inc., Hickory, N. C.

William Klein, 62, president of Klein Knitting Mills, New Milford, N. J.

Murray A. Linnick, 56, head of L & J Knitting Mills, Brooklyn, N. Y.

Dr. Alfred R. Macormac, 64, associate professor of chemistry at the School of Home Economics at University of Alabama, Tottenville, Staten Island, N. Y.

Fred B. McFalls, 62, sales representative for The Centrif-Air Machine Co., Inc., Gastonia, N. C.

Robert Nigrin, 53, sales manager of Alfred Suter Co., New York, N. Y.

Wert B. Rhyne, 69, president of Shuford Hosiery Mills, Inc., and Teague Hosiery Mills, Inc., Charlotte, N. C.

Edward J. Schellenberg, 72, president of Atwater Throwing Co., Kingston, Pa.

Dr. George Thomson, 60, assistant director of Fabric Research Laboratories, Inc., Dorchester, Mass.

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ADAMS FACT FILE #2

PLANT AIR

Moisture Chief Cause of Trouble . . .

Every company today is looking for ways to offset the increased costs of labor, material, equipment and services. At a gasoline station you expect "Free Air", but in industry it is a major expense. Perhaps in your own plant, for an investment in a few minor compressed air system alterations, significant savings are possible.

Water, sludge, rust, oil and dirt in compressed air systems are prime causes of maintenance and production down-time. Water vapor condensing in air lines tends to corrode the piping. Also, water present in the piping may freeze during winter, causing serious reduction of compressed air supply. Such restrictions are often difficult to locate and thaw. This same line moisture may emulsify lube oil destroying its lubricating value and the resultant mixture has high fouling characteristics. Frequently, ice will form within the tool itself since expanding air cools the moisture . . . tool efficiency will be seriously affected.

Some of the Other Problems Created By Wet Compressed Air . . .

Wet compressed air is not only a construction and production tool problem. Faulty paint jobs, contaminated chemical and food products can often be traced to moisture laden compressed air. Waterhammer, unequal pipeline thermal expansion and line leaks also result from collected moisture. In addition, air lost through traps, and in blow-down of compressed air lines provide no useful work . . . represent a sizeable power loss.

You Can Lick Compressed Air Moisture Problem . . .

All of these hidden costs can be virtually eliminated by the installation of an Adams Aftercooler and Cyclone Separator between the compressor and receiver tank. By cooling discharge air to within 10° F. of cooling water temperature — guaranteed with Adams standard Aftercoolers — the moisture can be removed at the separator. Pressure loss is less than one-half pound on these units including the separator. In severe cases, moisture removal of over 90 per cent can be obtained by cooling the air with Adams 2° Aftercooler to within 2° F. of water temperature.

Air Filter for Final Protection at Point of Use . . .

As an added safeguard for expensive tools and equipment, an Adams Poro-Stone Air Filter should be installed just before the air is used. These filters remove all solid material picked up by the air stream. With an Adams Aftercooler, Cyclone Separator and Air Filters clean, dry, trouble-free air is supplied to your production tools. You get continuous service with minimum maintenance.

For further information on how the complete line of Adams air equipment can solve your compressed air problems, write today for your free copy of Bulletin No. 712 on Aftercoolers and Bulletin No. 117 on Poro-Stone Air Filters from the R. P. Adams Company, Inc., 216 East Park Drive, Buffalo 17, New York.

MILL NOTES

A special edition of the employee publication "Picks and Hanks" was issued recently to mark the 50th anniversary of the **Marion (N. C.) Manufacturing Co.** The issue reviewed the history of the growth of the company and was illustrated with many interesting photographs of employees of bygone days. Also reproduced were congratulatory letters from prominent textile executives and local civic and business leaders.

A 5,500 sq ft addition to **Miller Hosiery Mills, Inc.,** Concord, N. C., has been completed and work areas realigned for more efficient operation. Additional knitting and looping machines are being installed, and the firm expects to employ approximately 15 more operatives.

Munsingwear, Inc., has announced the addition of boys' circular knit thermal underwear to its regular line of products. The underwear will be manufactured in a waffle pattern and will have the trade name "Polartherm."

A 50 per cent increase in the output of seamless nylons is the goal of a $1 million expansion program initiated by **National Associated Mills, Inc.** Plans include an addition to the Grenada, Miss., plant to house additional circular knitting machines and the installation of new machinery at the Batesville, Miss., plant.

West Point Manufacturing Co., participating in Alabama Industry Days, recently scheduled conducted tours of its various Alabama plants for members of employee families and their friends, the general public, and high school pupils.

A $200,000 plant has been established in a new building in Chattanooga, Tenn., by **Elastic Corp.** of Hickory, N. C. The facilities of the branch plant will be utilized to manufacture elastic yarn for the hosiery and weaving industries. The firm anticipates employing about 50 workers at the new location.

Warrenton Woolen Co., Torrington, Conn., has been purchased by Brown Bros., who also operate the **Homestead Woolen Mills** in Claremont, N. H. Warrenton is in operation following a brief closing just prior to the purchase. Henry N. Bresette continues active in the company.

Glen Alden Corp., a diversified holding corporation, has been listed for trading on the New York Stock Exchange under the ticker symbol "GA." Glen Alden's holdings include **USF-Aspinook Division,** Adams,

This mobile quality control laboratory serves COWIKEE MILLS, INC., plants at Eufaula, Ozark, and Union Springs, Ala. Shown about to enter the panel truck is Sam Cole who is in charge of this operation. A lap tester and evenness testing machine are visible in the interior view at the right.

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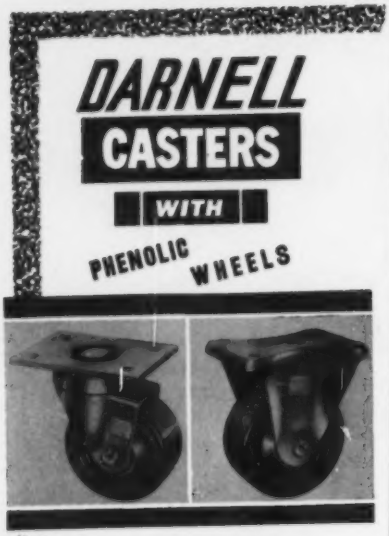

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MILL NOTES

(from page 208)

Mass., and Hartsville, S. C. * * * New officers have been elected following the merger of Glen Alden with List Industries Corp. Among them is William J. Durocher, who was elected a vice-president. Mr. Durocher is president of the USF-Aspinook Division.

United States Rubber Co. has begun closing the Lastex yarn plant, located in Manchester, N. H. Closing will be completed in about three months. Approximately 190 employees will be affected. Some machinery will be moved to other plants and some will be scrapped, and the plant will be sold or leased. Management stated that production will be consolidated in fewer plants, nearer to customers and to material sources.

The Essex Wire Corp. and the **Beacon Manufacturing Co.** have jointly signed a long-term lease on a new 50,000 sq ft air-conditioned plant at Belton, S. C., to manufacture electric blankets. The combined operation is expected to start production in a short time. It is anticipated that several hundred persons will be employed.

Berkshire Knitting Mills, Inc., Reading, Pa., has purchased **Polly-Betts Undies, Inc.,** Shillington, Pa. The children's underwear firm is being operated as a division of Berkshire with no changes slated either in personnel or location.

Burlington Industries, Inc., has purchased **The Adler Co.,** Cincinnati, O. The latter firm will continue to operate under its present name and management.

The maintenance departments of the Hillcrest and Elmrose divisions of **Callaway Mills Co.,** LaGrange, Ga., have been consolidated and will be operated henceforth as the maintenance department. The engineering department has been transferred from the research and development division to manufacturing. Both departments are under the supervision of P. N. Collier, vice-president in charge of manufacturing. James Hammett, formerly superintendent of Elmrose maintenance, heads the new maintenance department as superintendent of maintenance. In the engineering department R. Lee Thompson has been named industrial engineer and Bradley H. Nickles head textile engineer.

Production of all-over and band laces has begun in the newly-established **Carolina Lace Corp.,** Robbins, N. C. The firm employs approximately 30 persons.

Dan River Mills, Inc., has reorganized its commission finishing unit as a corporation known as **Schoolfield Finishers, Inc.** William J. Erwin has been named president of the new Danville, Va., corporation. Other officers include: Stanley Foster, executive vice-president; John W. Vanderwerff, treasurer; E. T. Martin, secretary; and John D. MacLauchlan, assistant secretary-treasurer.

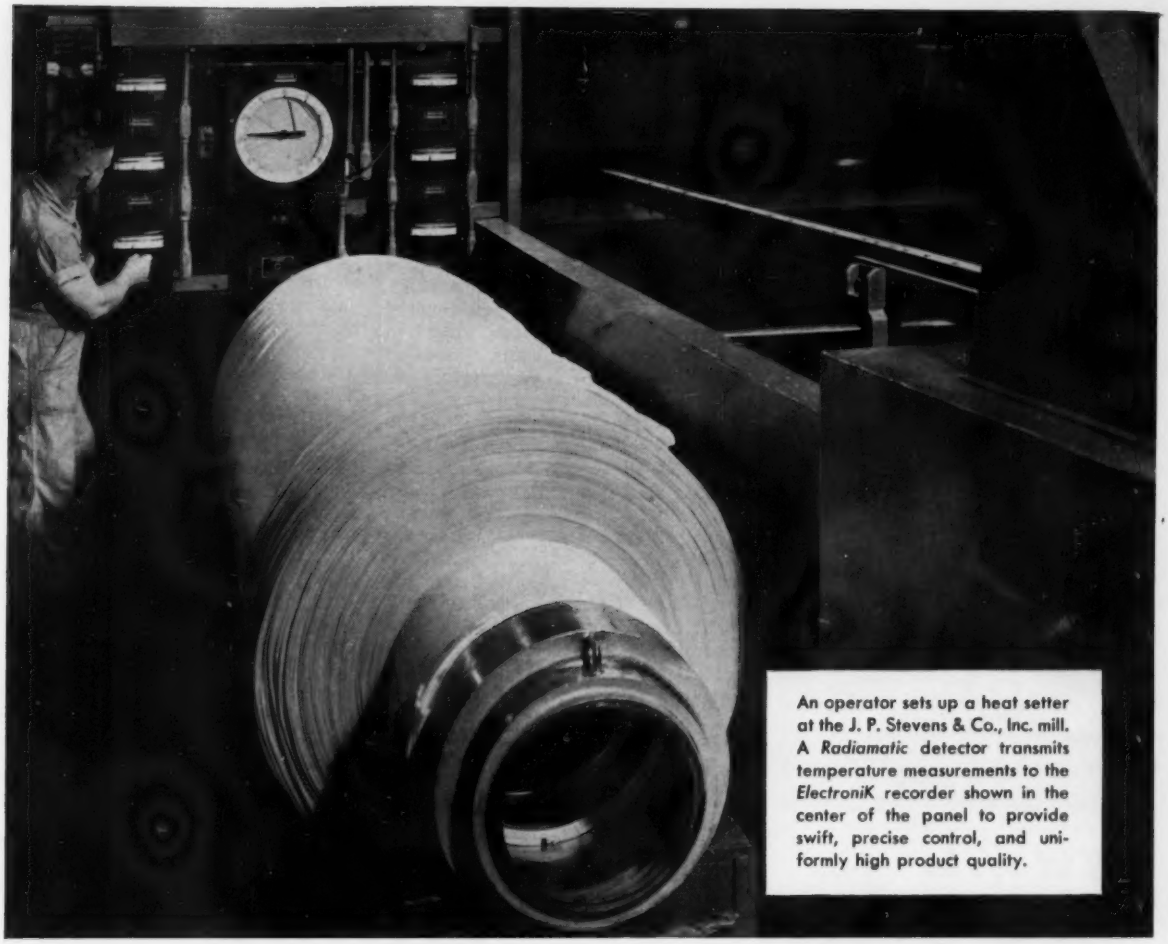
The newly-formed **Elmvale Worsted Co., Inc.,** has taken over control of the textile division of **Woonsocket Laurens Corp.,** Laurens, S. C. It was emphasized that Elmvale is a new company and will have no connections with the Pittsfield, Mass., property of Elmvale Worsted Co. The dye plant and the equipment in the worsted yarn mills of the latter firm have been sold. The new firm will manufacture worsted yarns from natural and synthetic fibers for the weaving and knitting trades.

A 13,000 sq ft building, scheduled for completion in September, is being erected just outside the city limits of Pickens, S. C., by **Fairhaven Mills, Inc.** The blended yarn spinning plant will be equipped with modern machinery, already on order. Approximately 100 will be employed.

Approximately 800 persons attended the plant tours, program, and barbecue dinner which recently honored the employees of **Gayley Mill Corp.,** Marietta, S. C. The celebration marked the achievement of the plant personnel in working 1,031 days without a lost-time accident.

A $1 million expansion program at the Textileather Division of **The General Tire & Rubber Co.,** Toledo, O., which includes a new building and installation of a giant, high-speed calender, is under way. The work is scheduled for completion late this fall. Installation of the calender will make possible the production of finished vinyl materials in widths up to 84 inches. The new building will house the calender and other equipment to be used in conjunction with it.

A new building, which will provide space for more equipment and make provisions for about 100 more jobs, is being constructed by **Inman (S. C.)**



An operator sets up a heat setter at the J. P. Stevens & Co., Inc. mill. A *Radiamatic* detector transmits temperature measurements to the *ElectroniK* recorder shown in the center of the panel to provide swift, precise control, and uniformly high product quality.

J. P. Stevens & Co., Inc.
KEEP NYLON WHITENESS CONSTANT
by using *Radiamatic* units on heat setters

- **Nothing touches the fabric**
- **No spots, snags, stains or shading**

Heat-setting temperatures for delicate nylon tricot are extremely critical. If the fabric isn't heated enough, it won't set properly. Even slight overheating will degrade or ruin the fabric. J. P. Stevens & Co., Inc. uses the *Radiamatic* detector at its Wallace, N. C. mill in processing nylon tricot for women's lingerie, to get accurate, high-speed, direct measurement of fabric temperature.

The *Radiamatic* unit senses actual fabric temperature. It converts heat energy into an electric signal, which is transmitted to an *ElectroniK* circular chart recorder. Nothing touches the fabric. Gone are the inherent difficulties of marking, snagging and missed cold areas encountered with thermocouples. With the highly accurate *ElectroniK* recorder, the setter can be held nearer to the maximum allowable temperature. Thus conditions can be reproduced with pin-point accuracy, to keep quality and shading uniform.

Your nearby Honeywell field engineer can give you complete details. Call him today . . . he's as near as your phone.

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CAN SAVE YOU . . .
MONEY!

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will reduce . . .
CHIPPING — SPLITTING
BREAKING
of your . . .
SPOOLS AND BOBBINS

Send Us Your Problems:
We Will Cooperate
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LAWRENCE, MASS., U.S.A.
SERVING NEW ENGLAND SINCE 1917

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"VERTICAL TRANSPORTATION"

Here's conveyor automation between-floors — one, two, or three floor levels — with minimum remodelling. Automatic loading, unloading, lifting or lowering to match conveyor speed. Controls, brakes, switches, platforms — all engineered to your needs.

Write for profitable suggestions on your own floor-to-floor conveyorizing with Weld-Bilt "Vertical Transportation"

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
362 Water Street • West Bend, Wisconsin

MILL NOTES

(from page 210)

Mills as part of a $3 million modernization program. Plans call for completion early in 1960.

An extensive expansion program, estimated to cost upwards of $1 million, has been initiated by **Jackson Mills,** Wellford, S. C. Plans include installation of 14 carding machines, additions to the slashing and spooling areas, and changes in drawing and several other departments. Scheduled for completion next spring, the project will add an estimated 75 to 100 new jobs.

A 20,000 sq-ft building being erected in Landis, N. C., will house the newly-formed **Corlin Processing Co., Inc.** Organized by **Linn-Corriher Mills Co.,** the firm will be operated as a wholly-owned subsidiary and expects to begin dyeing and finishing operations around January 1. The plant is designed to dye or bleach about 90,000 pounds of yarn per week on a three-shift basis. Construction and machinery costs are estimated at $750,000.

A new building is being constructed by **M. Lowenstein & Sons, Inc.,** in Anderson, S. C., to house the fabric development laboratory presently located at Orr Mills.

Herman Werner and a group of associates have purchased **Manchester (N. H.) Knitted Fashions, Inc.** Mr. Werner, formerly treasurer and general manager of the firm, and his associates completed the deal after **Allison Manufacturing Co., Inc.,** announced its decision to drop its option because of expanded production programs of its own in other areas.

A firm to produce knitted cotton and synthetic yardgoods on a contract basis has been established in Dallas, N. C. The plant, known as **North Carolina Knitting Mills,** is housed in premises formerly occupied by Monarch Mill. Jack Criswell is superintendent of the plant.

An addition has been constructed at the **G. H. Rauschenberg Co.,** Dalton, Ga., which adds 30,000 sq ft of manufacturing space to existing facilities. A latex compounding unit and a new 15' cut pile machine have been installed. In addition, the latex roller coating and drying oven has been redesigned so that production in the dryer is 29 per cent greater.

The Grace Cotton Mill of **Reeves Brothers, Inc.,** is being reactivated for the production of vinyl-coated materials, and developments in other areas of special plastic coatings are planned at the Rutherfordton, N. C., plant at a later date. It is anticipated that the firm will employ 100 persons when full production has been reached. In future, the plant will be known as Reeves Brothers, Inc., Grace plant. Modification of the plant structure is under way to accommodate the special production equipment.

Samed Hosiery Co., full-fashioned hosiery manufacturing plant in Willow Grove, Pa., has been liquidated.

An attractive, illustrated brochure has been issued by **Slane Hosiery Mills, Inc.,** High Point, N. C. Entitled "A Progress Report of Pioneer Hosiery Manufacture Since 1915," the booklet traces the development of the firm and tells the story of its 44 years of steady growth in the knitting industry.

Additions to the A and B Hannah Pickett plant, owned by **J. P. Stevens and Co., Inc.,** are being erected in Rockingham, N. C. The project is scheduled for completion in September.

The **Thrift (N. C.) Dye Works** will shortly initiate an expansion program aimed at bringing production up to one million yards per month.

The need for larger quarters was cited as a prime factor in the recent move made by **Trio Knitting Mill, Inc.,** Mount Airy, N. C. Officials expect to up production about 40 per cent in the roomier plant. According to C. M. Hoover, the firm's president, the mill may add new machinery and employ additional workers in the near future, if conditions improve in the men's hosiery field.

An 80,000 sq ft carpet mill is being constructed at White, Ga., by **Kingston Mills, Inc.** A completely integrated operation is planned—yarn spinning through carpet finishing.

Purchase of **Grantville (Ga.) Mills** by Ben Comer, head of Comer Machinery Co., and a group of associates has been announced. Flagg-Utica Corp. has leased the mill from the purchasers to produce knitting yarns for its own consumption. Modernization of equipment is planned and no change of personnel is contemplated, according to Jewett T. Flagg, board chairman and president of Flagg-Utica.

SUPPLIER NOTES

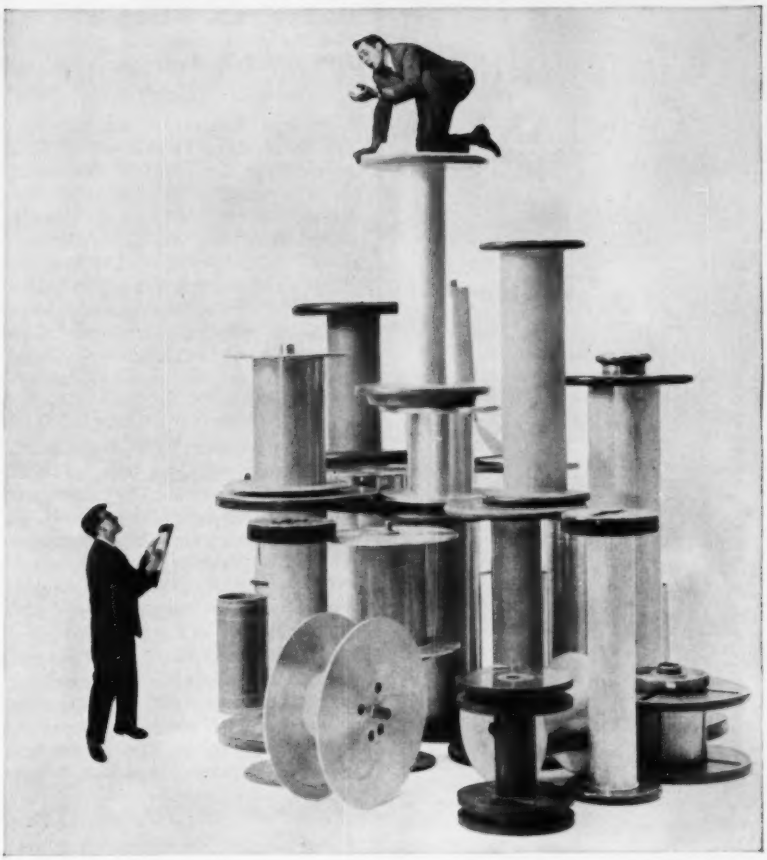
Adell Chemical Co. held open house May 18-22, marking the completion of a 90,000 sq ft addition to its building in Holyoke, Mass. Guided tours were conducted during the period. A special feature was an exhibit depicting the 25-year history of the firm's product, "Lestoil."

American Air Filter Co., Inc., has received an award from the nonprofit organization, American Institute of Management, honoring the firm as being "excellently managed" during 1958.

Thomas B. Porter has been assigned to the Greenville, S. C., office of **Armstrong Cork Co.** as resident salesman. Mr. Porter was previously attached to the New York City district office as a salesman in the industrial division.

Stanley Brooks has been elected vice-president of sales of the **H. W. Butterworth & Sons Co.** division of Van Norman Industries, Inc. He succeeds Edward S. Pierce who has resigned. * * * **United States Supply Co., Inc.,** of E. Providence, R. I., and **Industrial Heat Engineering Co.** of Greenville, S. C., have been appointed sales agents for H. W. Butterworth & Sons Co.

The promotion of John C. Fisher to director of purchasing has been announced by **The Chemstrand Corp.** He succeeds Norman C. Stiles who has been named director, foreign services. * * * Chemstrand plans to establish a new nylon development center near Pensacola, Fla., on the site of the present nylon plant. Efforts at the new center, scheduled for completion early next year, will be concentrated on development of improved properties and process innovations to produce nylon and other fibers. * * * Chemstrand is planning to build a multi-million dollar nylon yarn plant on a 1400-acre tract about six miles northeast of Greenwood, S. C. According to Edward A. O'Neal, Jr., president, in the first stage, capacity for an additional 10 million pounds of nylon yarn will be available late in 1960. * * * Ten million



GOT A BOBBIN PROBLEM...?

With higher speeds? bigger packages? longer life?
moisture? drive accuracy? balance? finishes?
synthetic yarns? pressures? other problems?

No one understands your need for bobbin design that is exactly right for your yarns, and bobbin performance that is 100% dependable, as intimately as we at the Lestershire Division of National. That's why we gear all of our manufacturing skills and services to your bobbin problem . . . not just to the manufacture of one convenient "standard" line.

Our factory representatives take pains to study your processes. Our designers work with infinite precision, and test and re-test to assure maximum bobbin concentricity and service life. Every development in yarns is followed to keep abreast of changing bobbin requirements. We know the textile field is too competitive for you to risk the cost of poor bobbin performance, or inferior quality.

Finally, we price all Lestershire Bobbins and Spools based on built-in quality giving top performance, long life, and operating economy.

Why not toss that bobbin problem at us . . . *today?* You can get in touch with us through any of the addresses below. Or contact your nearest National sales office. Dept. W-8.

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GREENVILLE,
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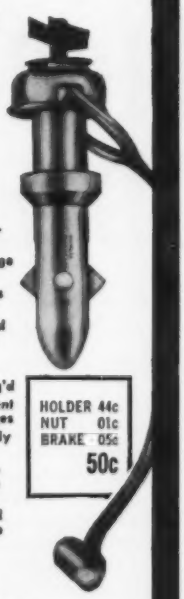
AMERICA'S FINEST
POSITIVE-LATCHING BALL BEARING
BOBBIN HOLDER



- Easy tripping—Positive latching—Freest running—Bulletnosed
- Faster for Operator to change
- Stainless steel precision balls—Stainless steel races—No rust drag
- The only thoroughly sealed ball assembly in any B.H. Prevents lint drag even after 2 or 3 years
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- Speednut slips through rail slot—doesn't have to slide from railend
- Shipped completely assembled
- Finest B. H. avail. at any price
- One size fits 8 x 4 thru 12 x 7 bobbins

Whitehead bobbin holders can be specified for your creels thru all the best creel mfgs.
Also available direct for thread boards

Patented, Manufactured and Guaranteed
WHITEHEAD DIE CASTING CO.
1198 ZONOLITE ROAD—ATLANTA 6, GA.

SUPPLIER NOTES

(from page 213)

man-hours without a lost-time injury have been completed at the company's nylon plant in Pensacola, Fla. The plant is an eight-time winner of the National Safety Council Award of Honor, the highest recognition granted by the Council. Chemstrand holds the world's record for safety in textile plants, establishing a mark of 17,106,185 man-hours without an employee losing time from his job because of an accident at work.

The impending relocation of the headquarters of **Ciba Co., Inc.,** has been made known. The new and modern building in Fair Lawn, N. J., will house the central staff, customer service laboratories, central warehouse facilities, and the Metropolitan district sales office and laboratories.

According to an announcement from **Roberts Co.,** National Spinning Co., has ordered 12 long-fiber spinning frames for use in a new knitting yarn plant being erected at Brunswick, N. C.

The appointment of **Dunson & New** as exclusive sales agents for the **Hartford-Greenville Division, Standard Screw Co.** has been announced. Under the new program, Dunson & New will absorb the present Hartford force, thereby increasing the number of men in the field, not only on Hartford products but on those of other firms now handled by the sales agents.

Practical solutions to the problems of industrial waste and water conservation are shown in a 16 mm sound and color motion picture, "Pure and Simple." The film is available without cost for showing in the U. S. on letterhead request to Public Relations Department, **Link-Belt Co.,** Prudential Plaza, Chicago 1, Ill.

Services which **Eastern Engineering Co.** offers to the textile manufacturing industry encompass all phases of engineering work from the conception of a design and construction program to the final start-up of completed facilities, according to Robert A. Harden, Jr., the firm's textile consultant who was formerly associated with Fieldcrest Mills, Inc. President of the firm is J. W. Cantrell; executive vice-president is K. G. Taylor.

Mr. Hendricks
Proctor & Schwartz

Mr. Anderson
Mount Hope Machinery

Metlon Corp. has completed arrangement with Acme Warping Co. of Paterson, N. J., to supply Metlon-with-Mylar on warp beams, especially paper beams.

Mount Hope Machinery Co. has appointed H. J. Anderson & Co. of Toronto as their exclusive Canadian representative for the textile and plastic industries. Herb Anderson is president of the company which serves the primary and secondary textile industry with both machinery and supplies.

Edward Maslanka has been reassigned from New England to the Southeastern Div. of **National Starch & Chemical Corp.** to handle textile accounts. Joseph J. Ducharme has moved from the West Coast to take over accounts and territory previously serviced by Mr. Maslanka.

James T. Greenlaw has been appointed eastern representative for **National Ring Traveler Co.** and Sterling Division. Mr. Greenlaw resides in Saco, Maine.

A new regional sales office has been added on the West Coast by **Proctor & Schwartz, Inc.** Under the direction of Robert L. Hendricks, the office is located at 8946 Fleetwing Ave., Los Angeles 45, Calif.

Southern Loom Development Co. has announced that Draper Corp. and Crompton & Knowles Corp. have agreed to sell and service the Hunt let-off and offer it on new looms manufactured by them. Southern Loom Development will continue to manufacture and market the let-off.

Because of ill health, Harry K. Smyth, **Saco-Lowell Shops** vice-president and assistant general manager of the Textile Machinery Division at Easley, S. C., and the Gear and Machine Division at Sanford, N. C., has taken an indefinite leave of absence, but he continues as a vice-president of the firm. Royden Walters, in addition to his post of

executive assistant to the president, has become executive vice-president and assistant general manager of both the Easley and Sanford operations. J. Woodward Hubbard continues as general sales manager of the Textile Machinery Division. * * * Resignation of C. Perry Clanton of the firm's Charlotte, N. C., district sales office has been announced.

The **A. E. Staley Manufacturing Co.** has entered the synthetic polymer field with the opening of a pilot plant for the production of acrylic type emulsions. Plans for a merger with **U B S Chemical Corp.** have been approved by directors of both firms. Acquisition of the chemical concern will add that company's chemical plant and laboratories at Cambridge, Mass., a new polymer plant in Lemont, Ill., a polymer plant and laboratory now under construction at Marlboro, Mass., a technical laboratory near Greenville, S. C., and other U B S facilities.

A multi-million dollar addition to the production facilities for Kodel polyester fiber is underway at the **Tennessee Eastman Co.** in Kingsport, Tenn. Upon its completion around the middle of 1960, the unit will provide an annual production capacity for Kodel in excess of 20 million pounds.

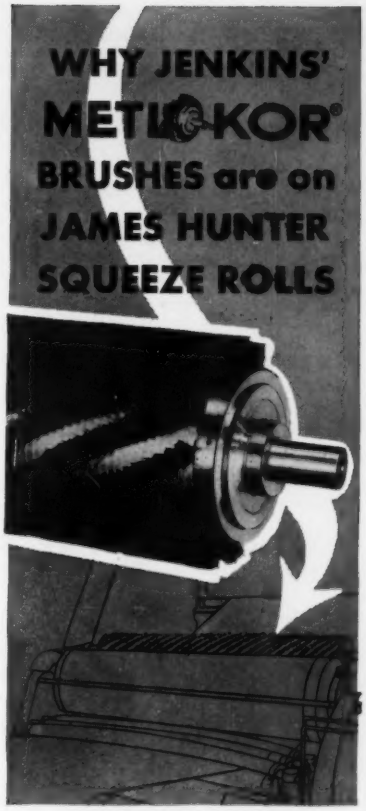
The election of Robert J. Ryan as vice-president-finance and Hans Fiedler as vice-president-sales has been announced by **Textile Machine Works** of Reading, Pa.

Under construction for **American Enka Corp.** in Enka, N. C., is a three-story building which will house administrative offices now located in New York City, as well as some corporate offices presently located at the Enka plant. The building is expected to be ready for occupancy by the end of the first quarter of 1960. * * * James K. Payton has joined the Providence, R. I., district sales office of American Enka Corp. as a sales representative. Previously he was with Thomaston (Ga.) Cotton Mills.

Appleton Machine Co. has appointed **Marshall and Williams Equipment Co.**, Greenville, S. C., southeastern sales representative, covering S. C., N. C., Ga., Ala., Tenn., Miss., and Va. The Appleton line includes shreiner, finishing, chasing, embossing, rolling and friction calenders, roll type water mangles, and cotton and combination filled rolls for the textile industry. * * * A new research laboratory has been established by Appleton to test textiles, paper, synthetic fabrics, plastics, and other materials and to develop improved methods of slitting and winding.

Realignment of the research and development division of **American**

The building into which ATLANTA BELTING CO. was to move in the fall was severely damaged by fire on May 22, as shown above. Ernest Key, president, announced that rebuilding would take about six months and that the firm would continue to do business from the Whitehall St. location in the meantime. This is the second building Atlanta Belting has lost; highway right-of-way is taking the presently used building.



A JAMES HUNTER SQUEEZE ROLL WITH JENKINS' METLKOR BRUSH

James Hunter Machine Co., North Adamsville, Mass., wanted a brush to stand up when removing acidified flock from their Carbonizer Squeeze Rolls. Jenkins' engineers designed a METLKOR brush with exposed metal parts of stainless steel and bristle of acid-resistant Nylon.

Mr. Frank B. Morrill, Chief Engineer, James Hunter Machine Co., says: ". . . we have been using Jenkins' brushes for flock removal on our Squeeze Rolls for years . . . they do a much better cleaning job than the brush previously used, and stand up several times longer . . ."

This top textile machinery manufacturer has proven the efficiency of Jenkins' METLKOR — the cylinder brush that lasts many times longer and can be re-bristled! If you have any standard or special brush problem, write us today.

Specify Jenkins' METLKOR
the original . . . the best Metal-Core Brush

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Serving Industry for 80 Years
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SUPPLIER NOTES

from page 215)

Viscose Corp. has resulted in the creation of polyolefin department which is under the management of Dr. John A. Howsman. The department was created to clear the way for rapid action connected with stereo regular polymers, films, and fibers. Polypropylene fiber and film development is a function of the department.

Howard A. Koller has announced the formation of his own firm, **Koller Chemical Co.**, in Hazleton, Pa., for the manufacture and sale of oils and chemicals primarily to the textile trade. The company specializes in throwing oils and sizes for the weavers of natural and man-made fibers as well as auxiliaries and finishes for the dyehouse.

Recently appointed to the technical and sales staff of **Metro-Atlantic, Inc.**, was M. M. McCann, who will work out of the Greenville, S. C., office and who will continue his residence at Burlington, N. C.

A corporate realignment encompassing the formation of a new company which will be prominent in the textile field has been announced by Miles Laboratories. The new organization is named the **Miles Chemical Co.** and is one of four main divisions of the parent corporation. The company consolidates operations of the Sumner Chemical Co., makers of fine organic chemicals including polymeric dialdehyde for increasing crease resistance and waterproofing, Takamine Laboratory Div., manufacturers of industrial enzymes for desizing of textiles and degumming of silks, and Citric Acid Production. Howard F. Roderick has been named president of the new company which will have administrative and marketing headquarters in Elkhart, Ind.

Mr. Koller
Koller Chemical Co.

Mr. McCann
Metro-Atlantic, Inc.

Mr. Roderick
Miles Chemical Co.

Mr. LaGrone
Seydel-Woolley & Co.

A. Welling LaGrone has been named vice-president of **Seydel-Woolley & Co.** He will be in charge of sizing sales for the U. S. and Canada.

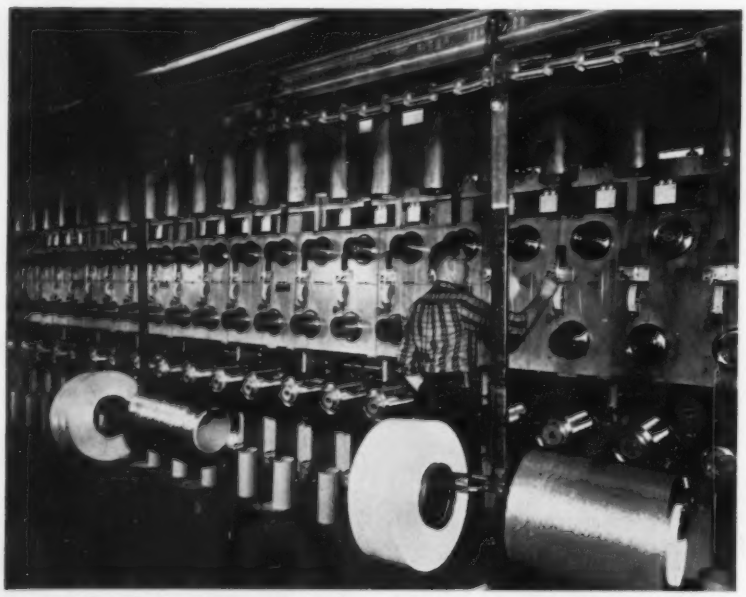
C. G. Sargent's Sons Corp. has appointed **D. H. Caldwell Co.** of Charlotte, N. C., as its exclusive sales engineering representative for N. C., S. C., Va., and Tenn.

The New York branch of **Eastman Machine Co.** has been moved to 534 8th Ave., New York 18, N. Y. The new offices occupy the entire second floor of the building and were planned and equipped to facilitate the handling of machines and the dispensing of parts and supplies.

Edda International Corp. and Abney Mills have announced the signing of an agreement for the manufacture and sale in the United States and Canada of the Maxbo shuttleless loom, a machine developed in Sweden which utilizes compressed air for filling insertion (TEXTILE INDUSTRIES for April, 1958, pp. 114-116). Sale of the loom will be handled exclusively by Edda International Corp. and manufacture will be accomplished by Abney Mills through its Southeastern Loom & Machine Works. Production of the loom by Southeastern will begin later this year; however, demonstration looms will soon be available for inspection. It was emphasized that inquiries regarding the loom should be directed to Edda International.

George R. Williams has been appointed to the development and service department of **Emery Industries, Inc.** He will be succeeded in the New York organic chemical sales office by Robert H. Endres, who has been serving the Pittsburgh territory. * * * The company has moved its branch sales office to 751 Main St., Waltham 54, Mass., from Lowell, Mass. John A. Condon and Walter R. Paris of the Organic Chemical Sales Dept. and Tom W. Macy of the Fatty Acid Sales Dept. will be headquartered at the new office. A warehouse operation will be maintained in Boston to service these departments, as well as the Sanitone Div.

A merchandising program that will make testing equipment available on five-year instalment purchase or rental purchase plans has been announced by **Scott Testers, Inc.**



Commercial production of a new tire cord was started recently at the ALLIED CHEMICAL CORP. fiber plant in Hopewell, Va. In this photo an Allied Chemical technician is shown checking control indicators used in the manufacture of Golden Caprolan, the name of the new nylon yarn.

Mr. Mitchell
Draper Corp.

Mr. McVey
Atkinson, Haserick

Mr. Duffy
Virginia Smelting Co.

Mr. Mackey
Arkansas Company

Walter M. Mitchell, vice-president of **Draper Corp.**, has been honored by the Georgia Institute of Technology with the presentation of the 1959 Alumni Distinguished Service Award. The award was presented in recognition of his devotion to Georgia Tech and the cause of higher education exemplified by his service as president of the Georgia Tech Foundation and as state chairman of the Alexander Memorial Fund Drive and in recognition of the credit he has brought his alma mater, the state, and the region by his civic and business leadership. * * * James H. Richardson has been elected to the board of directors of Draper and to the position of treasurer, succeeding Claude F. Snider who has resigned due to ill health. Mr. Richardson had been assistant treasurer since 1952.

Elmer J. McVey has been elected vice-president of **Atkinson, Haserick & Co., Inc.** Formerly with Saco-Lowell Shops, Mr. McVey is sales manager of the Platt Machinery Div. of Atkinson, Haserick with offices in Greenville, S. C., and Pawtucket, R. I., where a showroom is being installed. Harold V. Farnsworth continues as vice-president and general manager of the division.

Paul F. Fitzgerald has been appointed to the fiber technical service department of **Allied Chemical Corp.** He will serve as a fiber processing technologist at the Hopewell, Va., plant, concerned with customer service in the application of the company's staple and filament nylon, in carpeting end products.

James P. Duffy has been appointed to the industrial sales staff of **Virginia Smelting Co.** Formerly with the American Finishing Co., he will travel a Mid-South territory with headquarters in Memphis, Tenn.

A research center containing 40,000 sq ft of floor space is planned for a 12-acre site in Solon, Ohio, for **The Warner & Swasey Co.** Included in the facilities will be a special humidity-controlled design and experimental area for textile machinery. Completion is expected by the end of the year. * * * A marketing services department has been created to coordinate and provide single control over all areas of the firm's marketing activities not directly connected with field selling. Director of the department is Baxter Fullerton, who will be responsible for marketing functions apart from actual selling.

Griffin S. Mackey has joined the **Arkansas Co.** in their sales promotional division to cover the New York City area for the promotion of Resipon NDC, a new wash-and-wear resin. He will also work with the sales division and advertising department in the promotion of other textile auxiliaries.

The appointment of Charles H. Amidon, Jr., to the position of chief engineer for **Foster Machine Co.** has been announced.

Robert W. Kerr has been elected president of **Fairbanks, Morse & Co.** succeeding Robert H. Morse, Jr., who was named vice-chairman of the board. Frank H. Cankar was elected to the newly created post of vice-president-administration.

The James Hunter Machine Co. has sold the manufacturing rights for the Hunter bobbin holder to A. E. Winslow, operating as **Whitehorse Farms**, Greenville, S. C. Mr. Winslow developed, designed, and patented the bobbin holder. Although discontinuing the manufacture of the bobbin holder, Hunter will continue as a non-exclusive sales agent.

Carbic Color & Chemical Co., Inc., has changed its name to **Carbic-Hoechst Corp.**, and a dyestuff division and a pigment division have been formed. Headquarters of the dyestuff division continues at 451 Washington St., New York 13, N. Y. The pigment division is located in

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M-B

AUTOMATIC WHIRL-A-WAY AIR LINE FILTER MODEL W-1 and TRAP

RIBBON TYPE FILTERING UNIT removes solids .00039 and larger. Transparent plastic bowl makes filtered foreign matter visible. Gives maximum protection to all types of Lint blowers, Blow-off Hoses and various air-operated controls.

The TRAP ejects water automatically. Operates upon accumulation of 3 to 4 ounces. Discharges in less than 5 seconds. Assures dry air in pneumatic system at all times. Non-corrosive throughout.

M-B PRODUCTS
46 VICTOR AVE., Div. 16
DETROIT 3, MICHIGAN

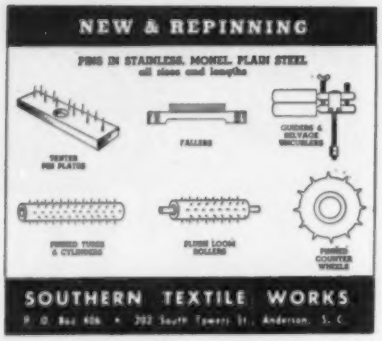
MORTON
AUTOMATIC BALL-BEARING LOGGERHEAD

This ball-bearing loggerhead is designed to relieve excessive strain thrown against the head by unlocking it, thus preventing a breakdown.

It will increase picker room production. It will eliminate shut-downs. It will prevent stretched laps because of its ball-bearing, friction-free rollers.

Immediate delivery — guaranteed satisfaction!

MORTON
MACHINE WORKS INC.
COLUMBUS, GA. U. S. A.



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Our specialty is good used automatic loom bobbins. We also deal in twister and rovin bobbins. Send us samples of what you need or what surplus bobbins you have.

CHARLES G. STOVER COMPANY
West Point, Georgia

ASSISTANT OVERSEER OF COTTON CARDING WANTED. Well established Textile Mill, Middle Atlantic States, wants man, not over forty years old, with technical and practical cotton carding experience for coarse work. Opportunity for advancement. Please submit previous experience and salary expected. Write Box 64, Textile Industries, 806 Peachtree St., N. E., Atlanta 8, Georgia.

WANTED
CHEMIST — B.S. DEGREE
EXPERIENCED
WITH NON-WOVENS, BONDED FABRICS, RESIN FINISHES TEXTILE OR PLASTIC INDUSTRIES DESIRED — N. E. location. SUBMIT RESUME AND SALARY REQUIREMENTS. WRITE BOX 65, TEXTILE INDUSTRIES, 806 PEACHTREE ST., N. E., ATLANTA 8, GEORGIA

OPENING FOR EXPERIENCED OVERSEER FOR COTTON SPINNING — YOUNG MAN PREFERRED — MILL LOCATED IN CENTRAL NORTH CAROLINA. REPLY BOX 66, TEXTILE INDUSTRIES, 806 PEACHTREE ST., N.E., ATLANTA 8, GEORGIA.

WANTED

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with over 20 years experience in cotton spooling, warping, and slashing. Please reply to Box 68, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.

SUPPLIER NOTES

(from page 217)

West Warwick, R. I. Carbic-Hoechst will offer for sale and serve the trade with all dyestuffs, pigments, and textile auxiliaries manufactured by Farbwerke Hoechst AG, Hoechst Chemical Corp., and Durand & Huguenin S.A.

Dr. Thomas J. Schoch, supervisor of basic starch chemistry at The George M. Moffitt Research Laboratories of **Corn Products Co.**, has been awarded the Saare Medal for his pioneering research work in the field of starch and starch fractions.

George B. Monk has joined the marketing department of **Werner Textile Consultants.** Formerly with Chemical Fibers, Ltd., he will be engaged in fiber marketing in both textile and industrial areas.

An Atlanta, Ga., district office has been established for **The Torrington Co.** at 244-246 Walker St., S.W. Larry Paine, district engineer, will serve the states of N. C., S. C., Ga., Fla., Ala., and Tenn.

C. Leonard Johnson has been appointed sales manager for **Synthane Corp.**

Ben N. Anderson, formerly of Dan River Mills and Renfrew Bleachery, is now a technical service representative for the **Chas. S. Tanner Co.** of Greenville, S. C.

American Cyanamid Co. recently moved into its new branch office and warehouse facilities at 5180 Peachtree Industrial Boulevard, Chamblee, Ga., enabling the Organic Chemicals, Pigments, and three other divisions of the firm to more effectively serve customers in the South Atlantic area. * * * John Lynch has joined the home furnishings department of the Fibers Division of American Cyanamid Co. Formerly with Loomweave Corp., Mr. Lynch is technical sales representative covering the carpet industry.

John J. Barnhardt, Jr., has been named Atlanta dyes sales supervisor of the southern district office of the Dyes & Chemicals Div. of **E. I. du Pont de Nemours & Co., Inc.** Harold L. Sager succeeds Mr. Barnhardt as

Mr. Lanford
Wica Chemicals

Mr. Walukewicz
Wica Chemicals

manager of the textile dyes section in Wilmington, Del.

Two new men have been appointed to the staff of **Wica Chemicals, Inc.** Walter V. Walukewicz will serve as manager of the technical service laboratories, while Charles G. Lanford will fill the position of chief chemist of the latex development and application laboratories.

The new headquarters address of the **J. O. Ross Engineering Division** of the Midland-Ross Corp. is 730 Third Ave., New York City. The move was necessitated by an approximate 30 per cent expansion of the staff during the nine years at the previous location.

R. L. Warwick has been named Georgia sales representative and John W. Lay, Jr., has become regional engineer, conveyor systems, in the southeastern region for **Rapids-Standard Co., Inc.** Both men will headquarter in Atlanta, Ga.

C. A. Friedmann has become president and treasurer of **Reading Testing Laboratories, Inc.,** and Hoyt Hambright has been named vice-president. Mr. Friedmann continues as head of **Kalio Universal.** Dr. Jay H. Quinn, founder and former head of RTL, is entering the chemical research and consulting field and will continue to be associated with the company in a consulting and advisory capacity. Rudolph Thierfelder is in charge of service and northern sales in the new set-up. Operations of the firm will continue unchanged.

Herbert C. Haller has been appointed as an assistant to Herbert J. Wollner, president and director of laboratories for **American Conditioning House Inc.** Mr. Haller, who was recently director of research for Bernhard Altmann International Corp., makes his headquarters at the main laboratory in Boston.

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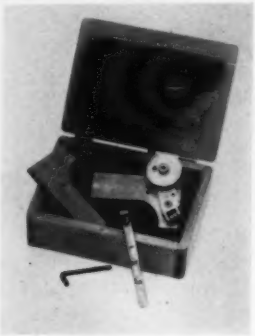

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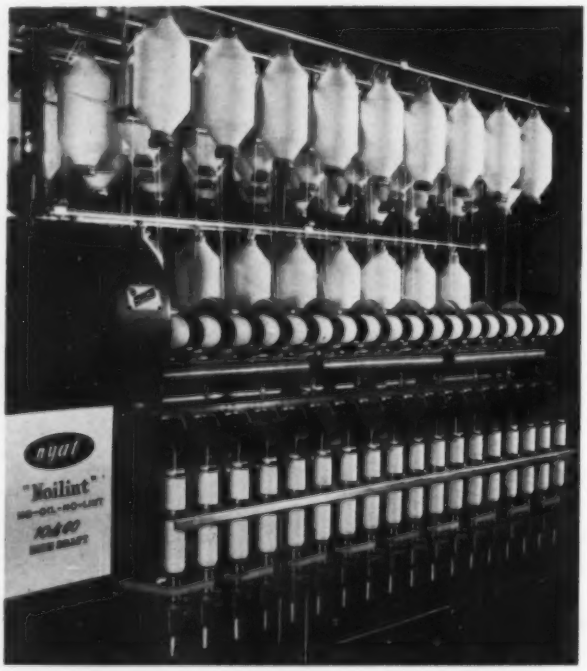

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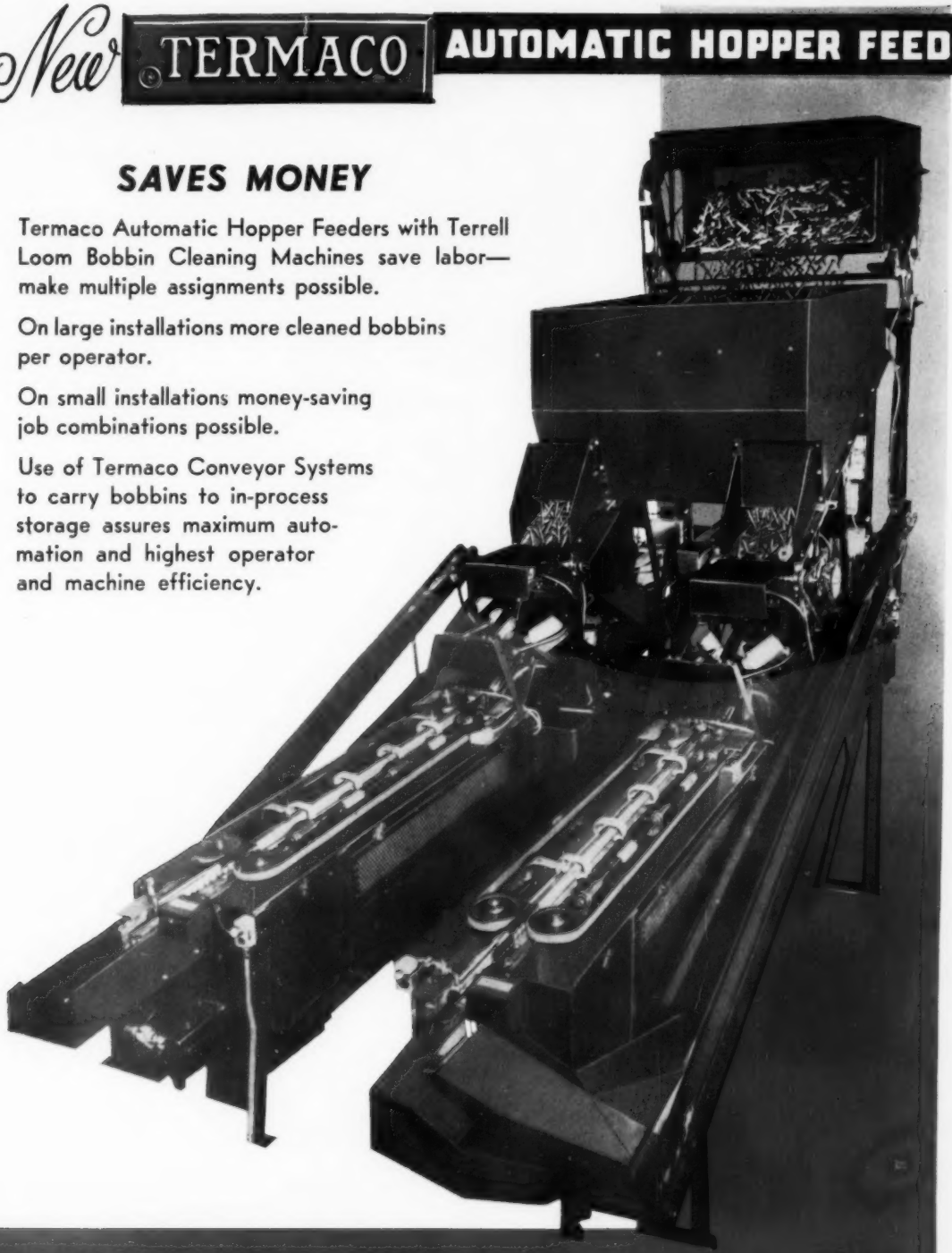

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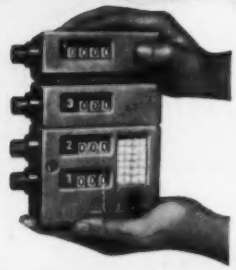

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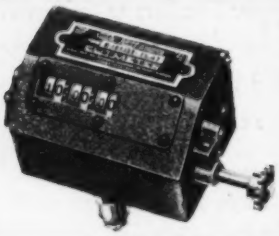
These convertible counters record production separately for each of 2, 3 or 4 shifts, providing a basis for wage payment. Basic 2-shift counter can have 3rd and 4th shift counting units added right in the factory, on the machine, as needed.



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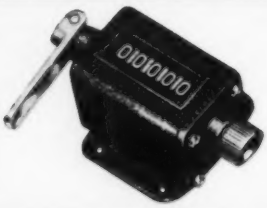
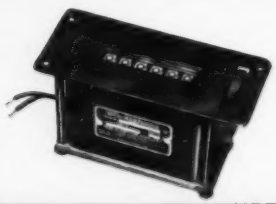
High Speed Reset Double Wheel Counter runs at speeds up to 6,000 rpm or 8,000 cpm.

Resets to zero with finger-flick.



Small Reset Counters:

Used on a wide variety of textile machines. Revolution or ratchet types, for speeds up to 1,000 counts per minute.



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Base mounted or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Knob or lock-key reset.

Widely used for remote indication.

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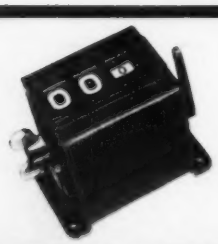
This modern hand-operated counter, made only by Veeder-Root, is arranged compactly on stands in tiers. Can be supplied in any of 67 combinations up to 6 tiers high and 12 units wide. Entire row of counters is reset to zero with a turn of one knob.



Hosiery Dozens Counter:

Used in inspection, doffing or on knitting machines. Small figures show single-stocking count. Large figures indicate dozens of pairs up to 100. Hand, foot, or machine actuated.